

FIG. 1

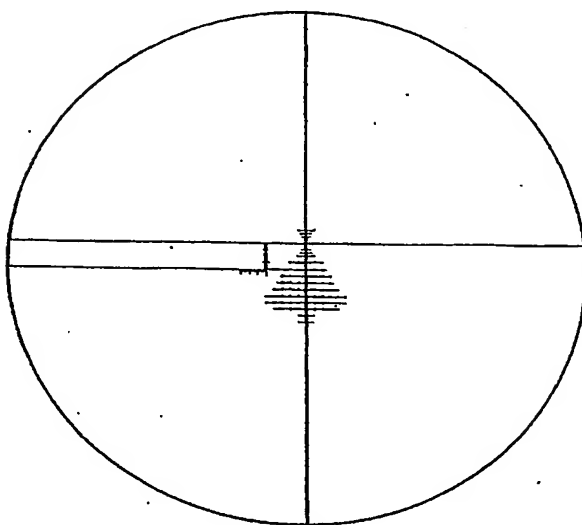


FIG. 3

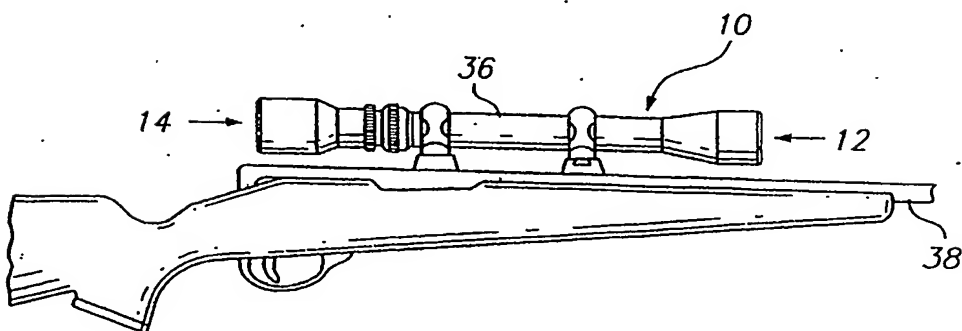


FIG. 4

BEST AVAILABLE COPY

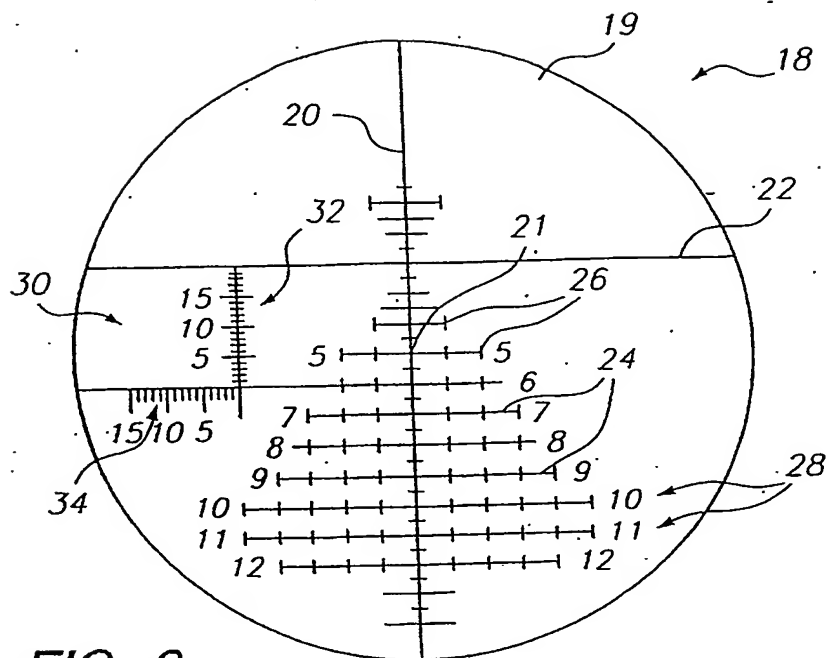


FIG. 2

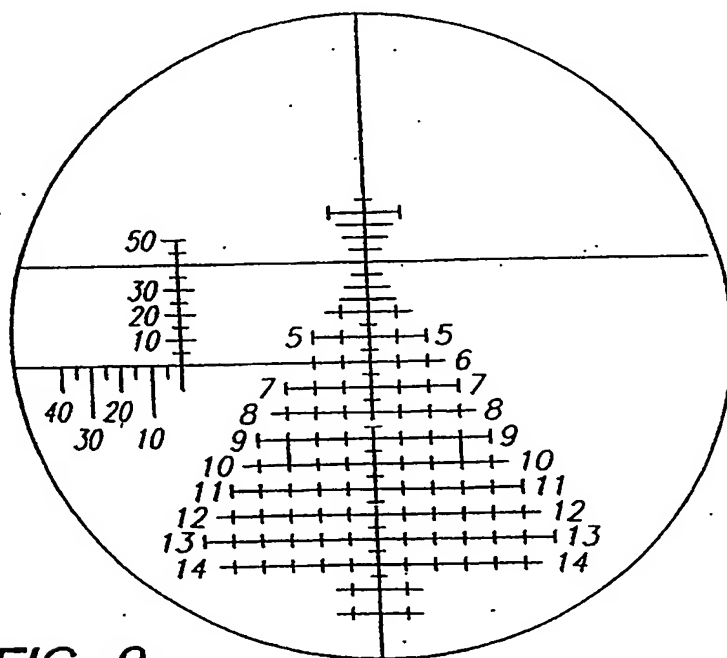


FIG. 9

Sights on at 500 yards. Sights are 3.00 inches above bore.
Angle of Departure = 0.21 deg. (Firing angle = 0 deg.)

Range (yds)	50	100	150	200	250	300	350	400	450	500
Traj. (in.)	3.3	8.3	12.2	14.8	16.1	16.0	14.4	11.2	6.5	0.0
Traj. (MOA)	6.2	8.0	7.8	7.1	6.2	5.1	3.9	2.7	1.4	0.0
Range (yds)	550	600	650	700	750	800	850	900	900	1000
Traj. (in.)	-8.2	-18.4	-30.5	-44.6	-61.0	-79.7	-101	-124	-151	-180
Traj. (MOA)	-1.4	-2.9	-4.5	-6.1	-7.8	-9.5	-11.3	-13.2	-15.1	-17.2
Range (yds)	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
Traj. (in.)	-212	-247	-286	-328	-374	-424	-477	-535	-598	-665
Traj. (MOA)	-19.3	-21.5	-23.7	-26.1	-28.6	-31.1	-33.8	-36.5	-39.4	-42.4
Range (yds)	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000
Traj. (in.)	-738	-816	-899	-989	-1085	-1187	-1295	-1411	-1533	-1662
Traj. (MOA)	-45.5	-48.7	-52.1	-55.6	-59.2	-63.0	-66.9	-70.9	-75.1	-79.4
Range (yds)	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500
Traj. (in.)	-1799	-1942	-2093	-2252	-2418	-2592	-2774	-2965	-3163	-3370
Traj. (MOA)	-83.8	-88.3	-93.0	-97.8	-102.6	-107.6	-112.8	-118.0	-123.3	-128.7

FIG. 5

CALIBER _____
TYPE OF BULLET _____
BULLET WEIGHT _____
EFFECTIVE BAL COEFF _____
BAL. COEFF A STP _____
COEFFICIENT OF FORM _____
ALTITUDE _____
TEMPERATURE _____
ATMOSPHERIC PRESSURE _____

DATE _____
NOTES _____

WORKSHEET

FIG. 6

CALIBER .50 Cal BMG
 TYPE OF BULLET 750gr AMAX MATCH
 BULLET WEIGHT 750gr
 EFFECTIVE BAL COEFF 0.750
 BAL. COEFF A STP 0.750
 COEFFICIENT OF FORM 0.571
 ALTITUDE 60.0F
 TEMPERATURE 30.0 IN.
 ATMOSPHERIC PRESSURE

DATE _____
 NOTES _____

WORKSHEET

RANGE YARDS	GRID INCHES OF ANGLE COVERAGE	BALLISTIC TABLE TRAJECTORY INCHES	DIFFERENCE	RANGE LIVE FIRE VALUES YARDS
100	7.5	+8.3	1	
200	15	+14.8	+1.0	-0.2
300	15	+16	+1.2	
400	10	+11.2	0	+1.2
500	0	0	-3.3	
600	151	-18.4	+1.5	-3.3
650	750	-61	+0.3	+4.7
750	56.25	-101.0	+0.3	+5.11
800	850	-101.0	-8.5	-5.0
950	1000	-180	-2.0	-0.5
1050	1100	-247	-0	-0.5
1150	1200	-328	+1.0	+2.0
1250	1300	-424	+4.5	+2.5
1350	1400	-535	-18.0	10.0
1450	1500	-665	+10.0	-1.75
1500	1550	-738	-16.0	+8.5
1600	1650	-899	+41	
1700	1700	-989		

FIG. 7

FIG. 8A

Hunting Shack 750 Gr AMAX Match .50 BMG
(Calculated using Ingalls' table)

Bullet Weight750 grains
Sectional Density0.429
Effective Bal. Coeff0.750
Cross wind10.0 m.p.h.
Atmospheric pressure30.00 in.

Bullet Caliber0.500
Coefficient of Form0.571
Bal. Coeff at STP0.750
Altitude0 Ft.
Temperature60.0 F

FIG. 8

Range yards	Velocity f.p.s.	Energy ft.-lb.	Momentum lb.-sec.	Mx. Ord. in.	Defl. in.	Drop in.	Lead in./mph	Time sec.
0	2800	13054.6	9.3247	0.0	0.0	0.0	0.0	0.000
50	2736	12468.5	9.1130	0.1	0.1	0.6	1.0	0.054
100	2674	11903.1	8.9040	0.6	0.4	2.3	1.9	0.110
150	2612	11357.7	8.6976	1.3	1.0	5.2	2.9	0.166
200	2551	10833.0	8.4943	2.4	1.8	9.4	4.0	0.225
250	2491	10329.2	8.2945	3.9	2.8	15.0	5.0	0.284
300	2432	9845.5	8.0979	5.7	4.1	21.9	6.1	0.345
350	2374	9381.1	7.9046	8.0	5.7	30.4	7.2	0.407
400	2317	8935.5	7.7146	10.7	7.5	40.3	8.3	0.471
450	2260	8508.0	7.5278	13.9	9.6	51.9	9.5	0.537
500	2205	8098.0	7.3442	17.6	12.0	65.2	10.6	0.604
550	2151	7705.0	7.1637	21.8	14.7	80.2	11.8	0.673
600	2098	7328.3	6.9864	26.7	17.7	97.2	13.1	0.744
650	2046	6967.3	6.8122	32.1	21.1	116.1	14.4	0.816
700	1994	6621.6	6.6410	38.2	24.7	137.1	15.7	0.890
750	1944	6290.6	6.4729	45.1	28.7	160.3	17.0	0.966
800	1894	5973.7	6.3078	52.7	33.0	185.7	18.4	1.045
850	1845	5670.5	6.1456	61.2	37.7	213.6	19.8	1.125
900	1798	5380.5	5.9864	70.5	42.8	244.1	21.2	1.207
950	1751	5104.6	5.8309	80.7	48.2	277.2	22.7	1.292
1000	1705	4842.8	5.6794	92.0	54.1	313.2	24.3	1.379
1050	1661	4594.5	5.5319	104.4	60.3	352.2	25.8	1.468

FIG. 8A

FIG. 8B

FIG. 8

1100	1618	4358.9	5.3882	117.9	67.0	394.3	27.4	1.559
1150	1576	4135.4	5.2482	132.6	74.1	439.7	29.1	1.653
1200	1535	3923.3	5.1119	148.6	81.7	488.7	30.8	1.750
1250	1495	3722.1	4.9791	166.1	89.7	541.3	32.5	1.849
1300	1456	3531.3	4.8498	185.0	98.1	597.8	34.3	1.950
1350	1418	3350.2	4.7238	205.4	107.1	658.3	36.2	2.055
1400	1382	3178.4	4.6011	227.6	116.5	723.2	38.0	2.162
1450	1346	3016.8	4.4826	251.5	126.4	792.6	40.0	2.272
1500	1312	2867.1	4.3700	277.4	136.9	866.9	42.0	2.385
1550	1280	2728.4	4.2629	305.4	147.8	946.3	44.0	2.500
1600	1249	2599.4	4.1610	335.5	159.3	1031.1	46.1	2.619
1650	1220	2479.7	4.0640	367.9	171.2	1121.4	48.2	2.741
1700	1193	2371.7	3.9745	402.8	183.7	1217.7	50.4	2.865
1750	1169	2274.7	3.8924	440.2	196.6	1320.3	52.7	2.992
1800	1146	2187.0	3.8166	480.5	210.0	1429.2	54.9	3.122
1850	1125	2107.4	3.7465	523.7	223.8	1544.7	57.3	3.254
1900	1105	2034.6	3.6812	569.8	238.1	1666.9	59.6	3.388
1950	1087	1967.8	3.6203	618.7	252.7	1795.9	62.0	3.525
2000	1070	1906.2	3.5632	670.5	267.8	1931.9	64.5	3.664
2050	1054	1849.2	3.5095	725.3	283.2	2075.0	67.0	3.805
2100	1039	1796.3	3.4590	783.0	299.0	2225.5	69.5	3.949
2150	1024	1747.1	3.4112	843.8	315.2	2383.3	72.1	4.094
2200	1011	1701.0	3.3660	907.7	331.7	2548.7	74.7	4.242
2250	998	1657.9	3.3231	974.8	348.6	2721.9	77.3	4.391
2300	986	1617.5	3.2822	1045.0	365.8	2902.8	79.9	4.542
2350	974	1579.4	3.2433	1118.4	383.3	3091.8	82.6	4.695
2400	963	1543.4	3.2062	1195.0	401.2	3289.0	85.4	4.850
2450	952	1508.7	3.1699	1274.8	419.3	3494.2	88.1	5.007

FIG. 8B

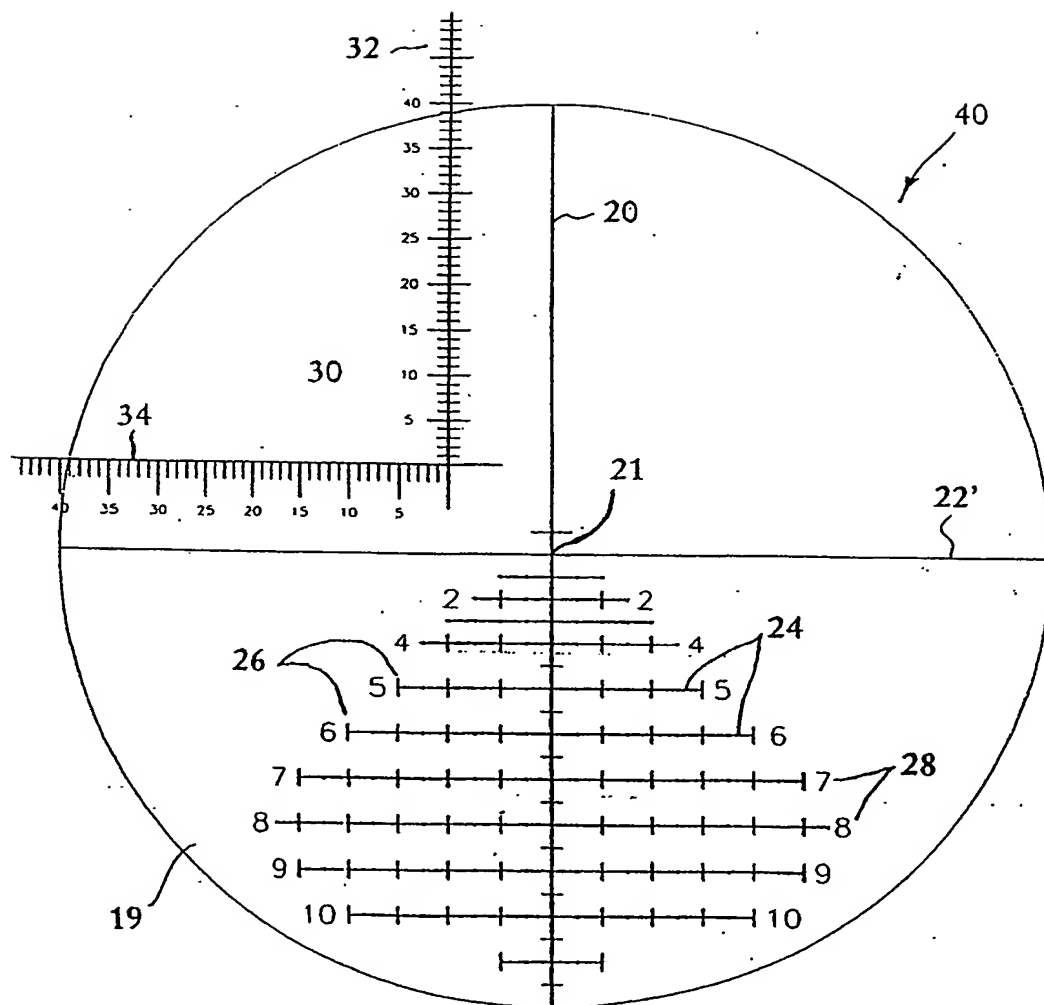


Fig. 10

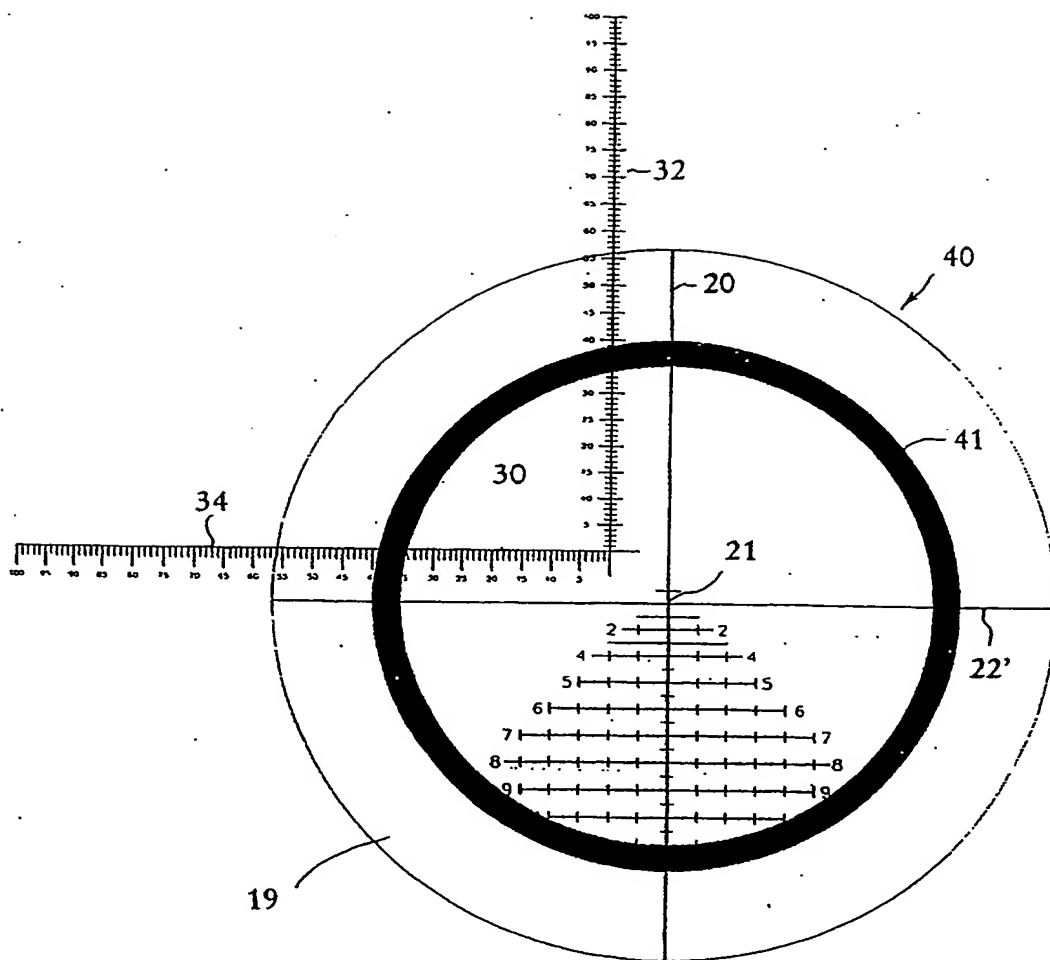


Fig. 11

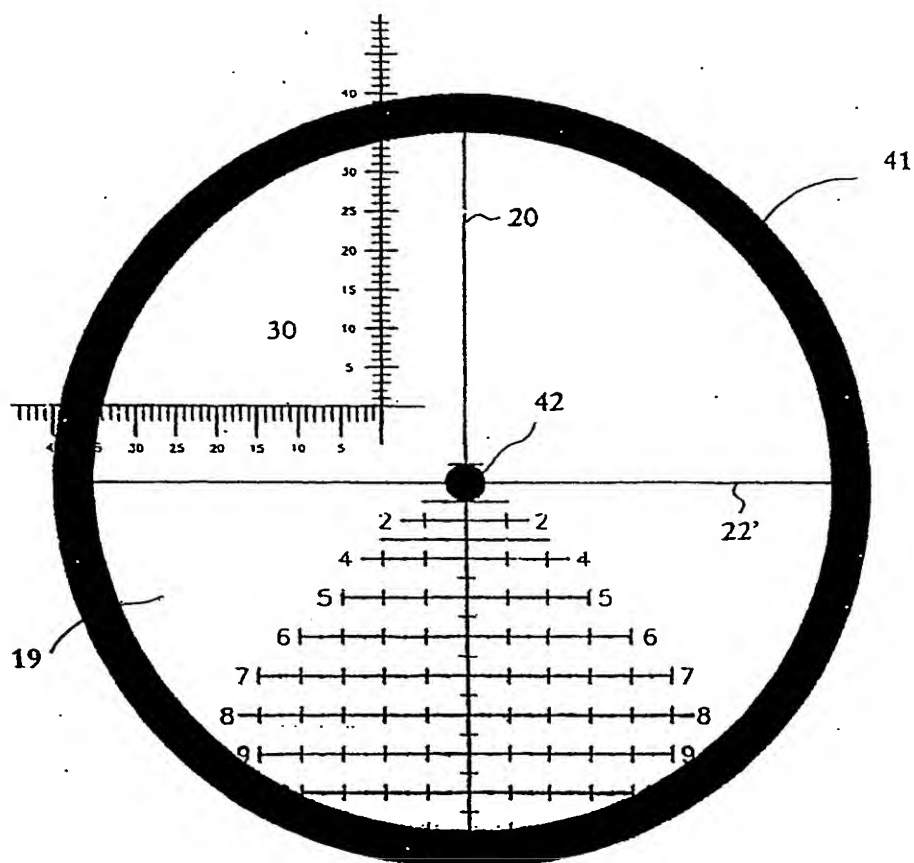


Fig. 12

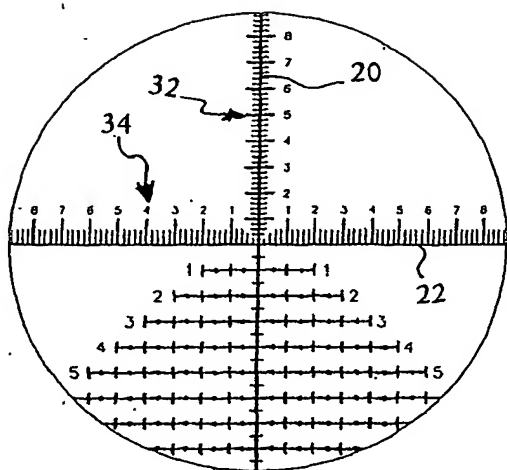


FIG 13

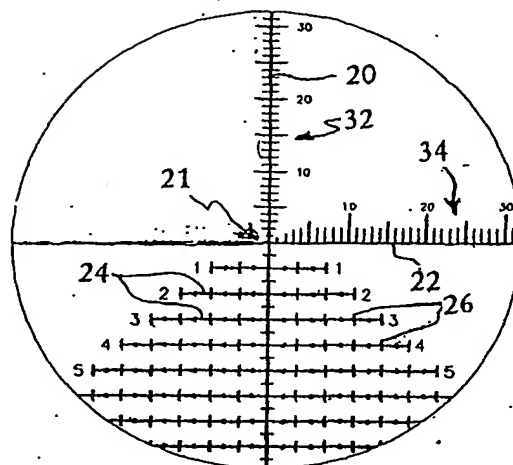


FIG 14

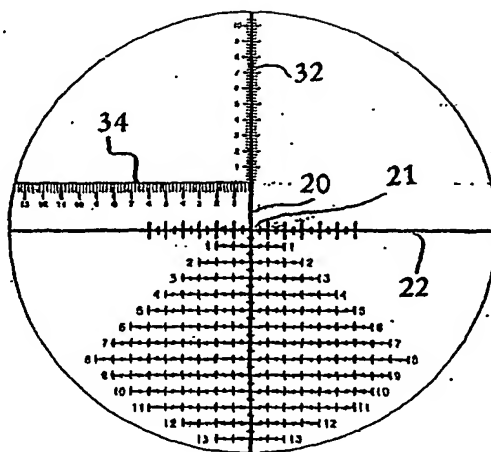


FIG 15

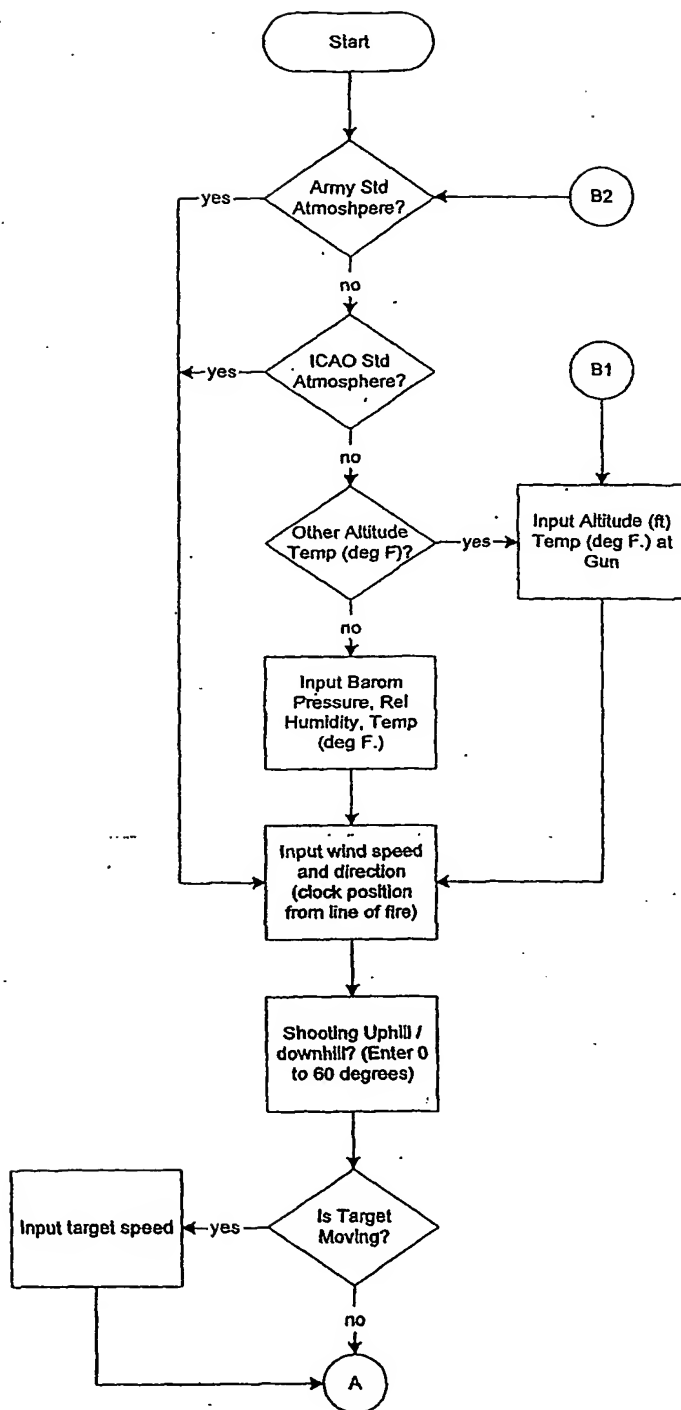
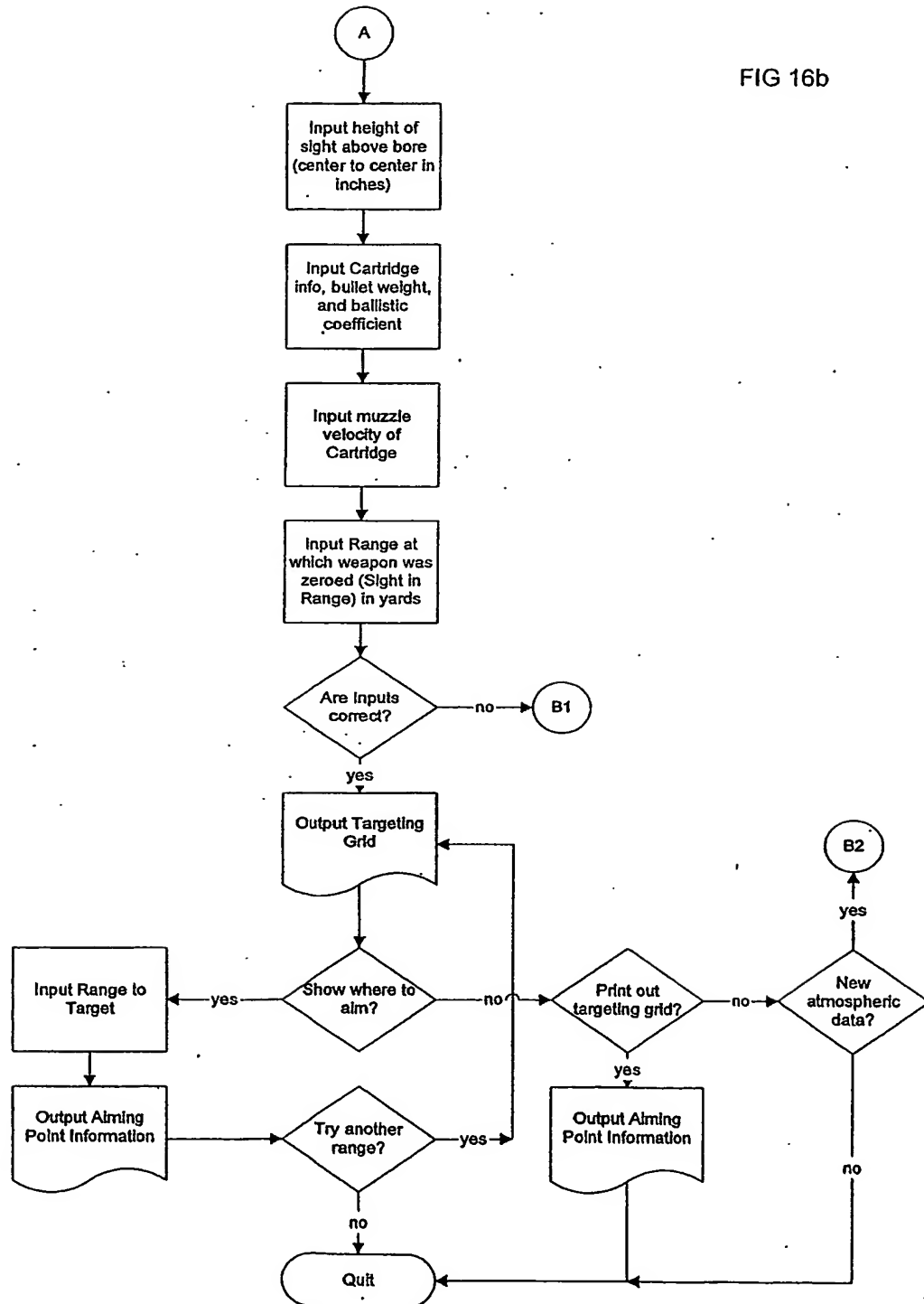


FIG 16a

FIG 16b



Targeting Grid
Formatted in Mils

.300 Win Mag Federal Gold
Medal

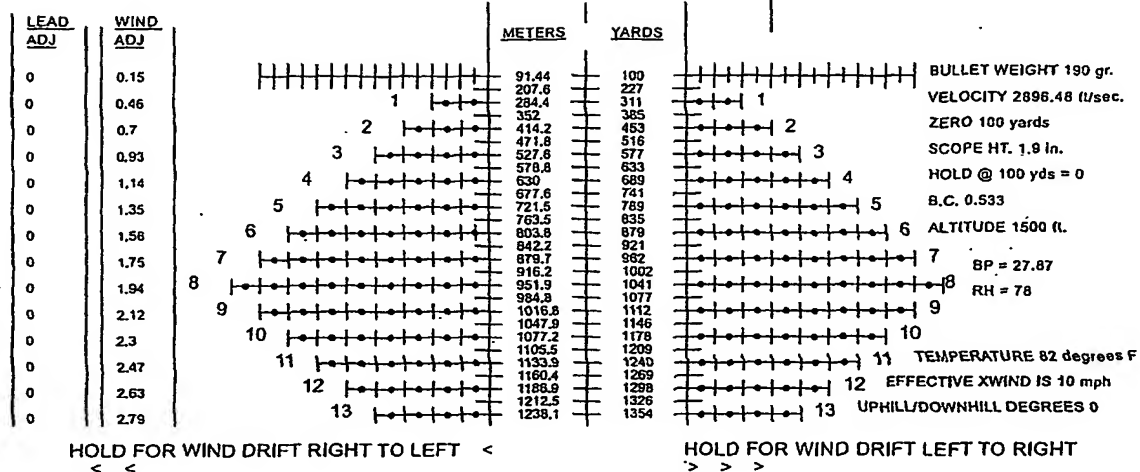


FIG. 17A

Targeting Grid
Formatted in Mils

.300 Win Mag Federal Gold
Medal

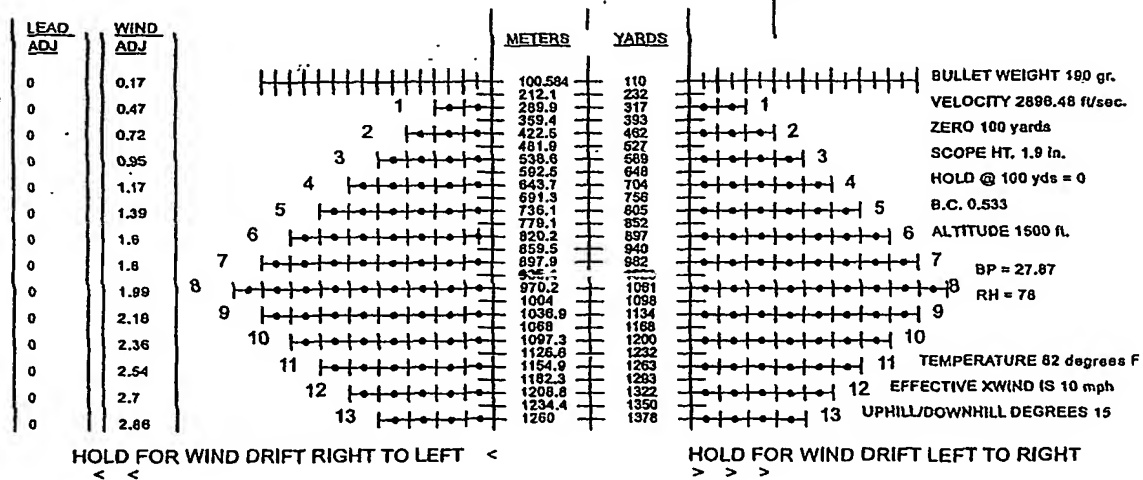


FIG. 17B

Targeting Grid
Formatted in Mils

LEAD ADJ	WIND ADJ
2.04	0.15
2.17	0.45
2.26	0.7
2.35	0.93
2.44	1.14
2.52	1.35
2.61	1.56
2.68	1.75
2.76	1.94
2.83	2.12
2.9	2.3
2.97	2.47
3.04	2.63
3.1	2.79

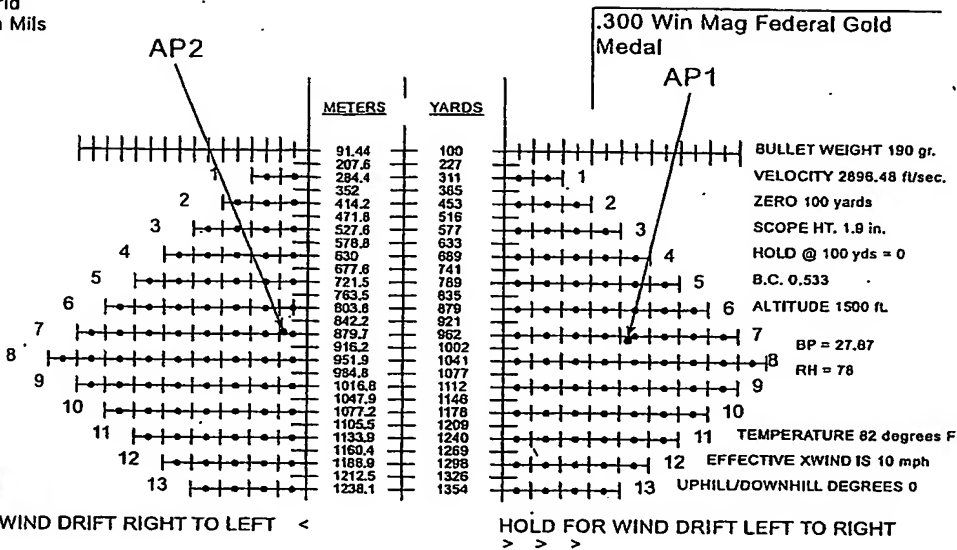


FIG. 17C



FIG. 18A

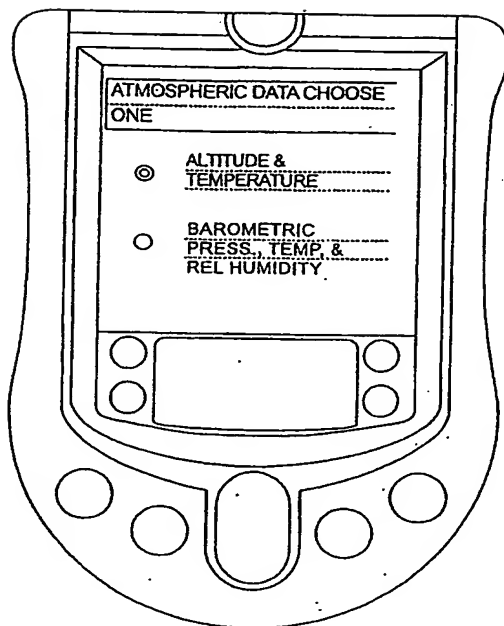


FIG. 18B

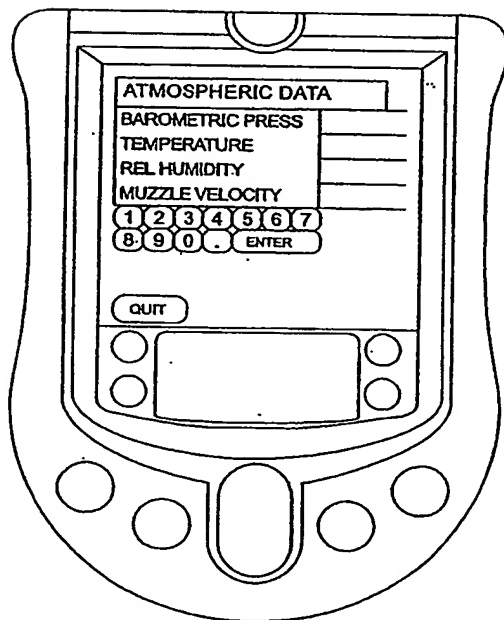


FIG. 18C

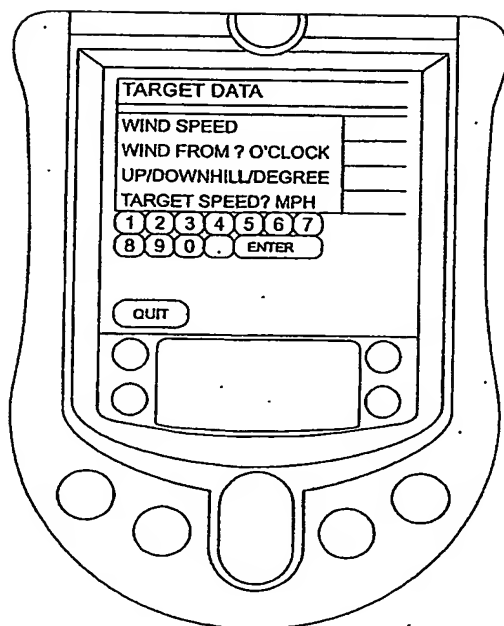


FIG. 18D

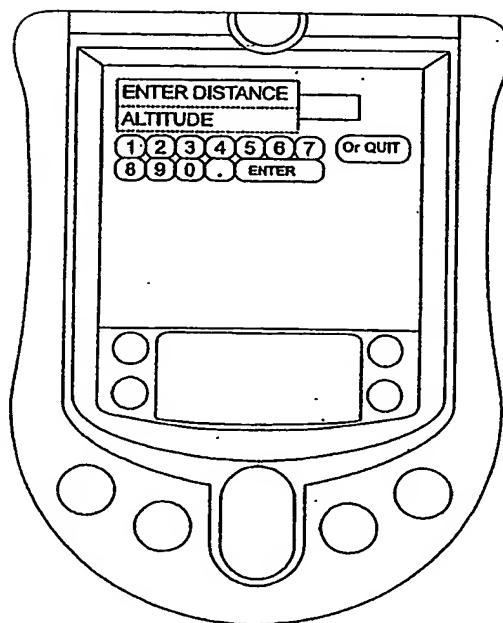


FIG. 18E

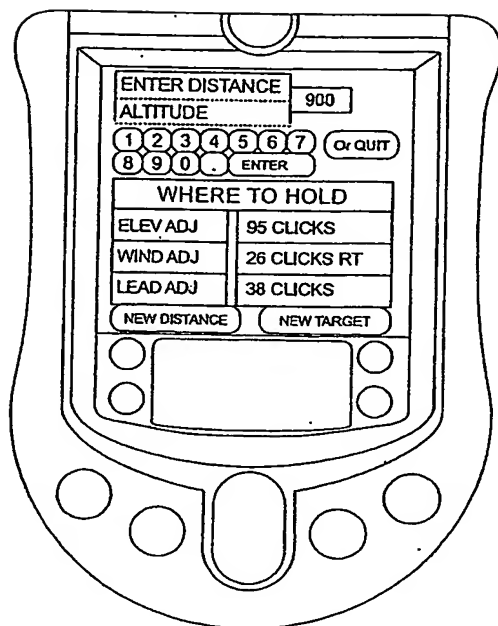


FIG. 18F

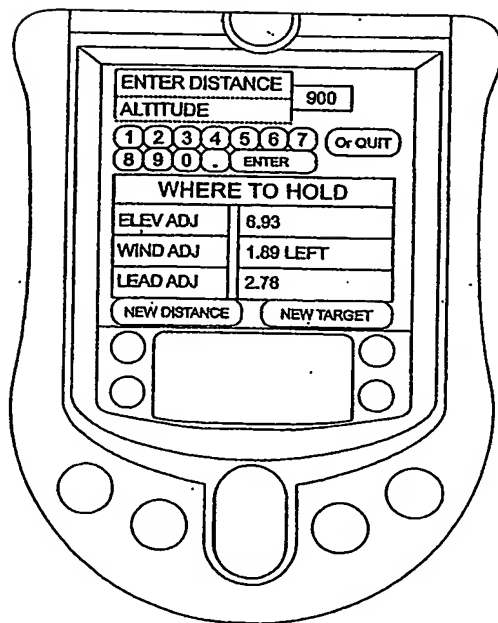


FIG. 18G

ATrag1P <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Gun</th> <th>Atmsphr</th> <th>Target</th> </tr> </thead> <tbody> <tr> <td>BH 1.9</td> <td>WS 2</td> <td></td> </tr> <tr> <td>BWt 190</td> <td>Tmp 59</td> <td>WD 4</td> </tr> <tr> <td>C1 0.533</td> <td>BP 29.43</td> <td>IA 11</td> </tr> <tr> <td>MV 2900</td> <td>RH 78</td> <td>TS 2L</td> </tr> <tr> <td>ZR 100</td> <td></td> <td>TR 1000</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Abs</th> </tr> </thead> <tbody> <tr> <td>Elev</td> <td>8.2</td> </tr> <tr> <td>Wind</td> <td>0.4L</td> </tr> <tr> <td>Lead</td> <td>1.4R</td> </tr> </tbody> </table> Quit ▾ Horus	Gun	Atmsphr	Target	BH 1.9	WS 2		BWt 190	Tmp 59	WD 4	C1 0.533	BP 29.43	IA 11	MV 2900	RH 78	TS 2L	ZR 100		TR 1000	Abs		Elev	8.2	Wind	0.4L	Lead	1.4R	ATrag2P E M RangeCard <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Gun</th> <th>Atmsphr</th> <th>Target</th> </tr> </thead> <tbody> <tr> <td>BH 1.9</td> <td>WS 3</td> <td></td> </tr> <tr> <td>BWt 190</td> <td>Tmp 59</td> <td>WD 4</td> </tr> <tr> <td>C1 0.533</td> <td>BP 29.43</td> <td>IA 11</td> </tr> <tr> <td>MV 2900</td> <td>RH 78</td> <td>TS 4L</td> </tr> <tr> <td>ZR 100</td> <td></td> <td>TR 1000</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Abs Rel Cur</th> </tr> </thead> <tbody> <tr> <td>Elev</td> <td>112U</td> <td>112U 0</td> </tr> <tr> <td>Wind</td> <td>BR</td> <td>BR 0</td> </tr> <tr> <td>Lead</td> <td>40L</td> <td>40L 0</td> </tr> </tbody> </table> Quit ▾ Clicks 4 Reset Update	Gun	Atmsphr	Target	BH 1.9	WS 3		BWt 190	Tmp 59	WD 4	C1 0.533	BP 29.43	IA 11	MV 2900	RH 78	TS 4L	ZR 100		TR 1000	Abs Rel Cur			Elev	112U	112U 0	Wind	BR	BR 0	Lead	40L	40L 0	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">Range Card Setup Main</th> </tr> <tr> <th>Range</th> <th>Elev</th> <th>Wind</th> <th>Lead</th> </tr> </thead> <tbody> <tr><td>275</td><td>11.0</td><td>2.0</td><td>30.0</td></tr> <tr><td>300</td><td>13.0</td><td>2.0</td><td>31.0</td></tr> <tr><td>325</td><td>16.0</td><td>2.0</td><td>31.0</td></tr> <tr><td>350</td><td>18.0</td><td>2.0</td><td>31.0</td></tr> <tr><td>375</td><td>21.0</td><td>2.0</td><td>31.0</td></tr> <tr><td>400</td><td>23.0</td><td>3.0</td><td>32.0</td></tr> <tr><td>425</td><td>26.0</td><td>3.0</td><td>32.0</td></tr> <tr><td>450</td><td>29.0</td><td>3.0</td><td>32.0</td></tr> <tr><td>475</td><td>31.0</td><td>3.0</td><td>33.0</td></tr> <tr><td>500</td><td>34.0</td><td>3.0</td><td>33.0</td></tr> <tr><td>525</td><td>37.0</td><td>3.0</td><td>33.0</td></tr> <tr><td>550</td><td>40.0</td><td>4.0</td><td>33.0</td></tr> </tbody> </table>	Range Card Setup Main				Range	Elev	Wind	Lead	275	11.0	2.0	30.0	300	13.0	2.0	31.0	325	16.0	2.0	31.0	350	18.0	2.0	31.0	375	21.0	2.0	31.0	400	23.0	3.0	32.0	425	26.0	3.0	32.0	450	29.0	3.0	32.0	475	31.0	3.0	33.0	500	34.0	3.0	33.0	525	37.0	3.0	33.0	550	40.0	4.0	33.0
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Atmospheric Conditions Calc Method AT TBH Temperature (F) 59 Barom. Pres. (in.mrc.) 29.43 Relative Humidity (%) 78 Don't forget about the Decimal <div style="display: flex; justify-content: space-between;"> 1 2 3 4 5 6 7 8 9 0 . Done Cancel Prev Next - </div>	Gun Information Bore Height (inches) 1.9 Bullet Weight (grains) 190 C1 Coefficient 0.533 Muzzle Velocity (fps) 2900 Zero Range (yards) 100 Don't forget about the Decimal <div style="display: flex; justify-content: space-between;"> 1 2 3 4 5 6 7 8 9 0 . Done Cancel Prev Next </div>	Target Wind Speed (mph) 2 Wind Direction (clock) 4 Inclination Angle 11 Target Speed (mph) 2 Target Range (yards) 1000 <div style="display: flex; justify-content: space-between;"> 1 2 3 4 5 6 7 8 9 0 . Done Cancel Prev Next </div>																																																																																																																
MidDot Range Finder When using WIDTH to size a target, Up/Dwn Angle does not effect range calculation but will effect bullet drop. UsingTarget Height Width Target Size 36 in ft cm M MILs 1 Angle 11 Range 982 Y M <div style="display: flex; justify-content: space-between;"> 1 2 3 4 5 6 7 8 9 0 . Done Cancel Prev Next </div>	Range Calc When using WIDTH to size a target, Up/Dwn Angle does not effect range calculation but will effect bullet drop. UsingTarget Height Width Target Size in ft cm M Ticks mil in moa Angle Y M Range Y M <div style="display: flex; justify-content: space-between;"> 1 2 3 4 5 6 7 8 9 0 . Done Cancel Prev Next </div>	Gun List i <div style="border: 1px solid black; padding: 5px; min-height: 100px;"> SampleGun WIN 308 WARBIRD 50 BMG Custom Load LarryGun </div> <div style="display: flex; justify-content: flex-end; gap: 5px;"> StoreAsNew Modify Sel Fetch Sel Delete Sel Cancel </div>																																																																																																																
SampleGun01 D E M RngCard <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Gun</th> <th>Atmsphr</th> <th>Target</th> </tr> </thead> <tbody> <tr> <td>BH 1.9</td> <td>WS 5</td> <td></td> </tr> <tr> <td>BWt 190</td> <td>Tmp 59</td> <td>WD 8</td> </tr> <tr> <td>C1 0.533</td> <td>BP 29.43</td> <td>IA 0</td> </tr> <tr> <td>MV 2900</td> <td>RH 78</td> <td>TS 0.0</td> </tr> <tr> <td>ZR 100</td> <td></td> <td>TR 1800</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Hold Cor Spin</th> </tr> </thead> <tbody> <tr> <td>Elev</td> <td>27.15</td> <td>0.13D</td> </tr> <tr> <td>Wind</td> <td>1.18R</td> <td>0.19L 0.71L</td> </tr> <tr> <td>Lead</td> <td>0.0</td> <td></td> </tr> </tbody> </table> GunList ▾ Horus Norm Adjs	Gun	Atmsphr	Target	BH 1.9	WS 5		BWt 190	Tmp 59	WD 8	C1 0.533	BP 29.43	IA 0	MV 2900	RH 78	TS 0.0	ZR 100		TR 1800	Hold Cor Spin			Elev	27.15	0.13D	Wind	1.18R	0.19L 0.71L	Lead	0.0		Target Latitude N S 33 Dir of fire from North 88 Wind Speed (mph) 10 Wind Direction (clock) 9 Inclination Angle 12 Target Speed (mph) 2 Target Range (yards) 2200 <div style="display: flex; justify-content: space-between;"> 1 2 3 4 5 6 7 8 9 0 . Done Cancel Prev Next </div>	Gun Information Bore Height (inches) 1.9 Bullet Weight (grains) 190 Bullet Diam (inches) 0.5 calibr C1 Coefficient 0.533 Rifle Twist (in/turn) 8 R L Muzzle Velocity (fps) 2900 Zero Range (yards) 100 <div style="display: flex; justify-content: space-between;"> 1 2 3 4 5 6 7 8 9 0 . Done Cancel Prev Next </div>																																																																																		
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Lead	0.0																																																																																																																	

FIG. 18H

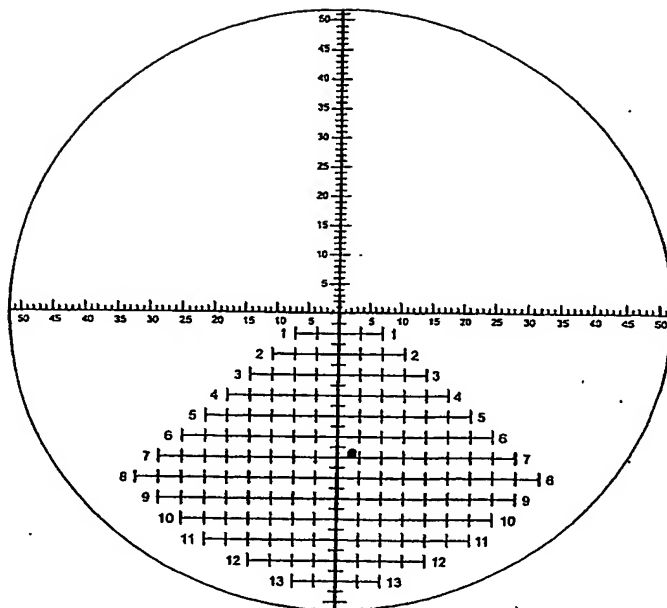


FIG. 19A

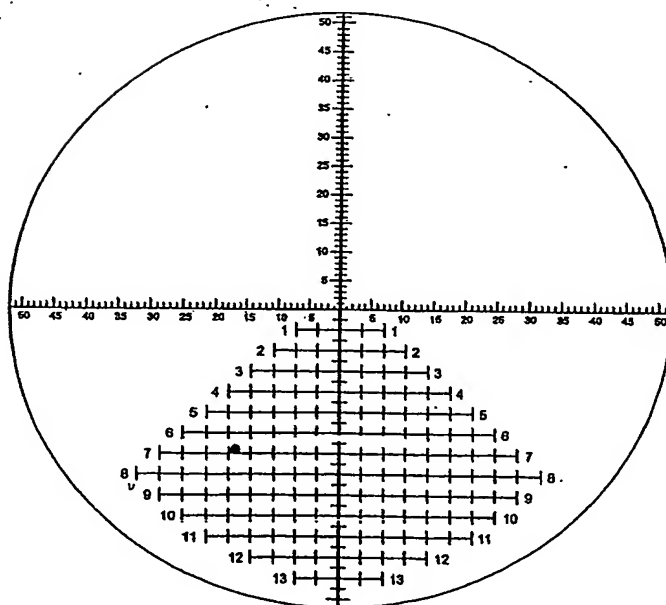


FIG. 19B

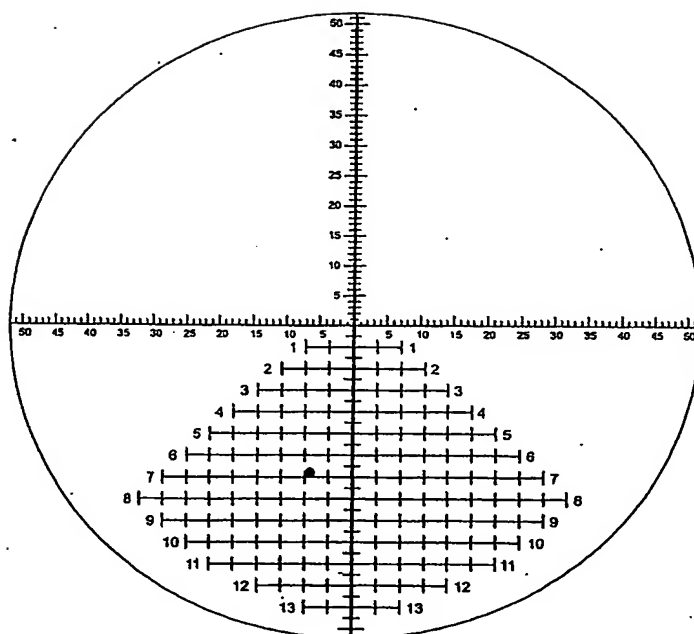


FIG. 19C

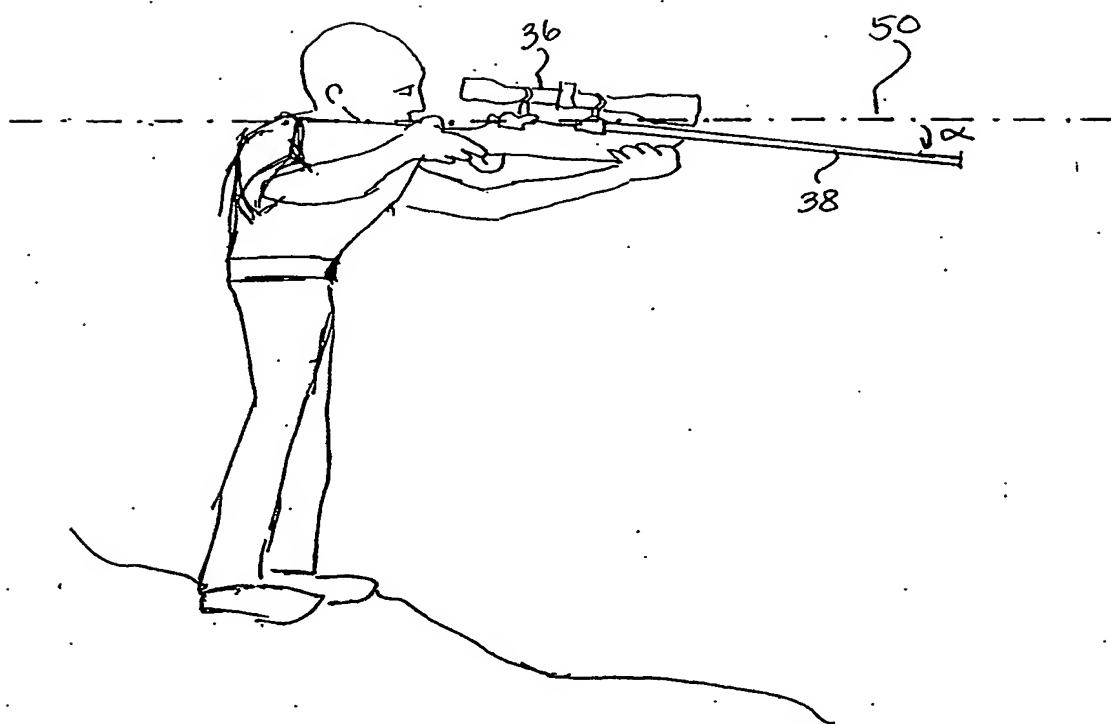


FIG. 20

FIG. 21

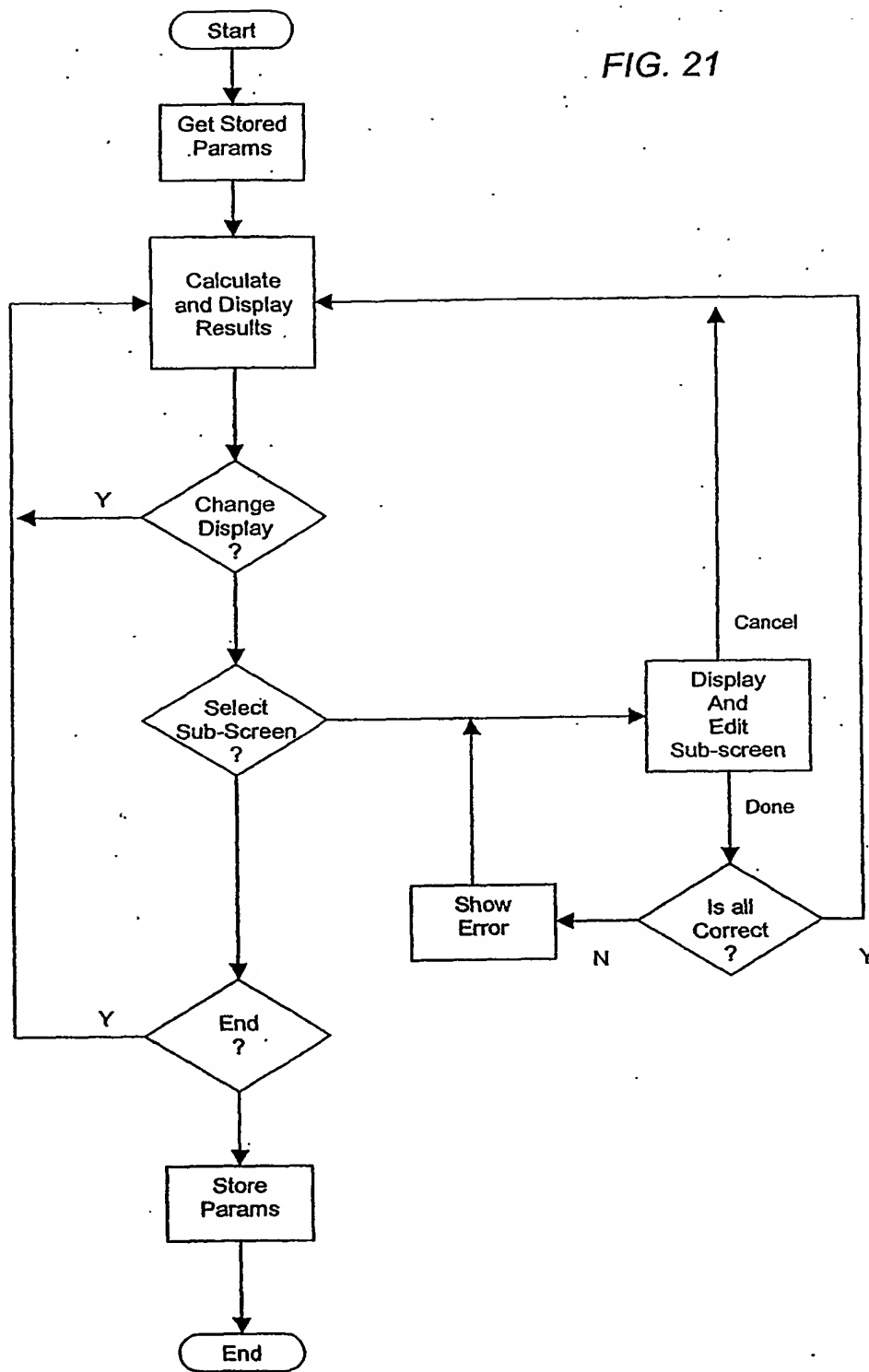
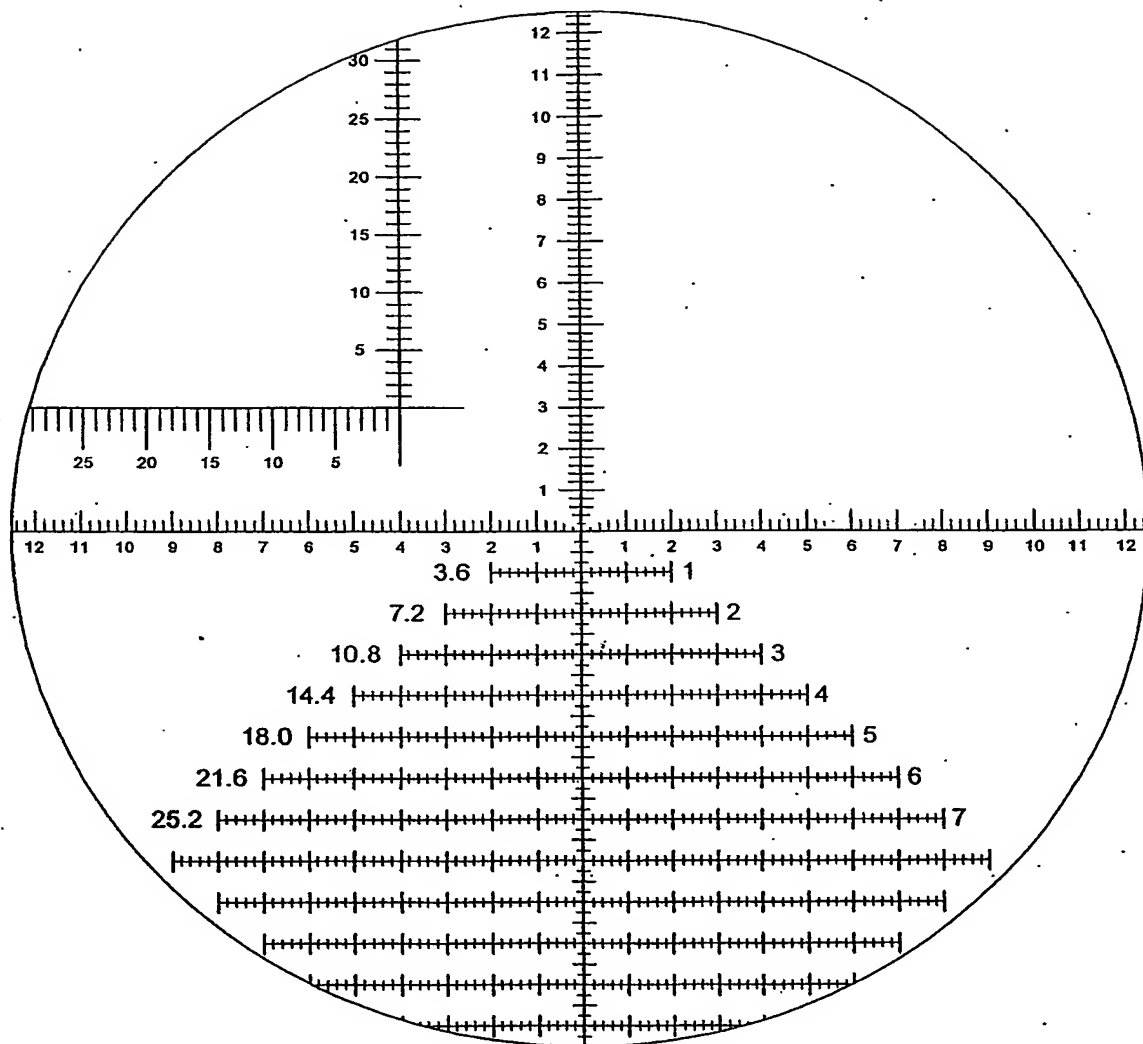
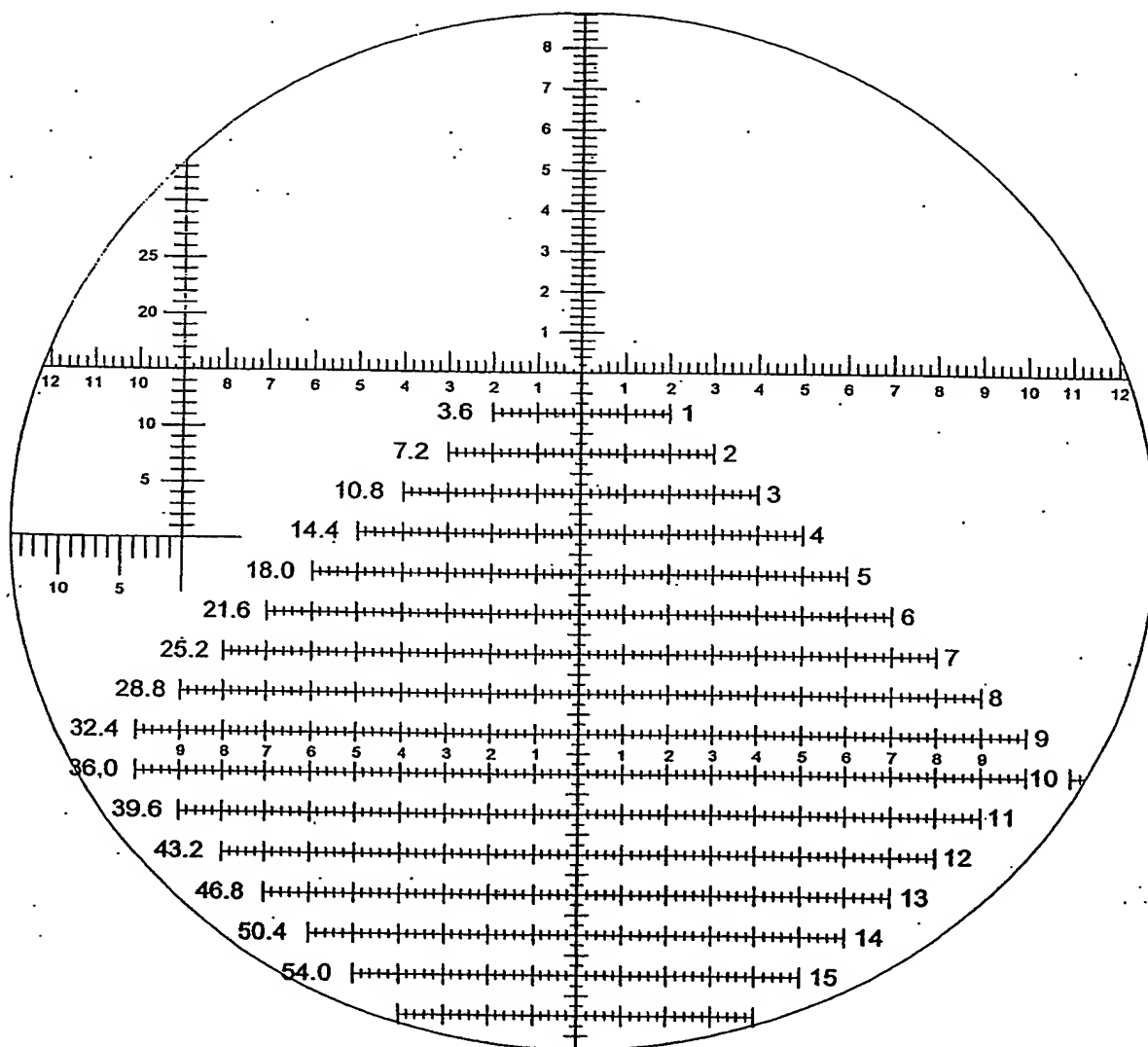


FIG. 22



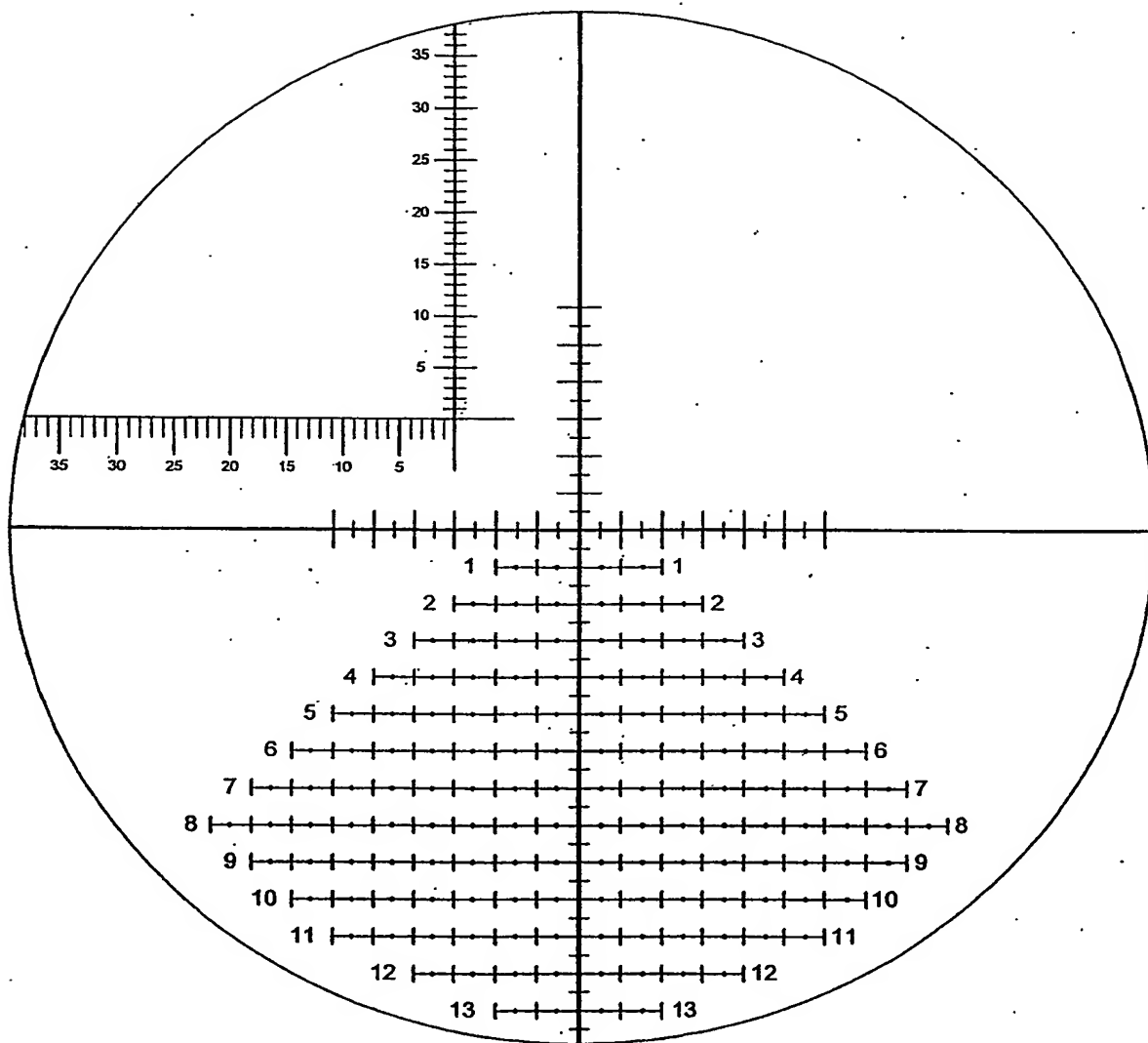
H-1

FIG. 23



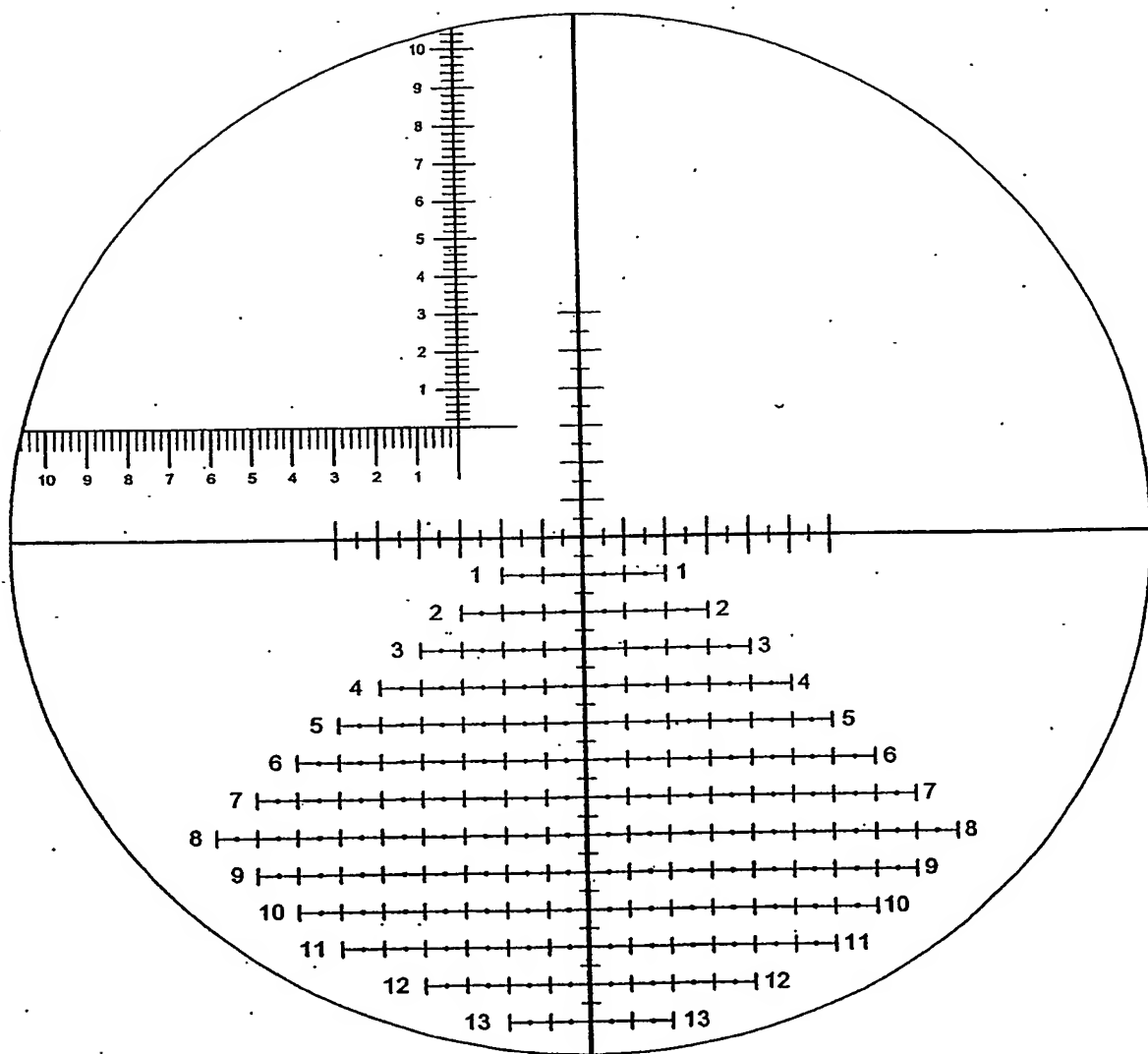
H-2

FIG. 24



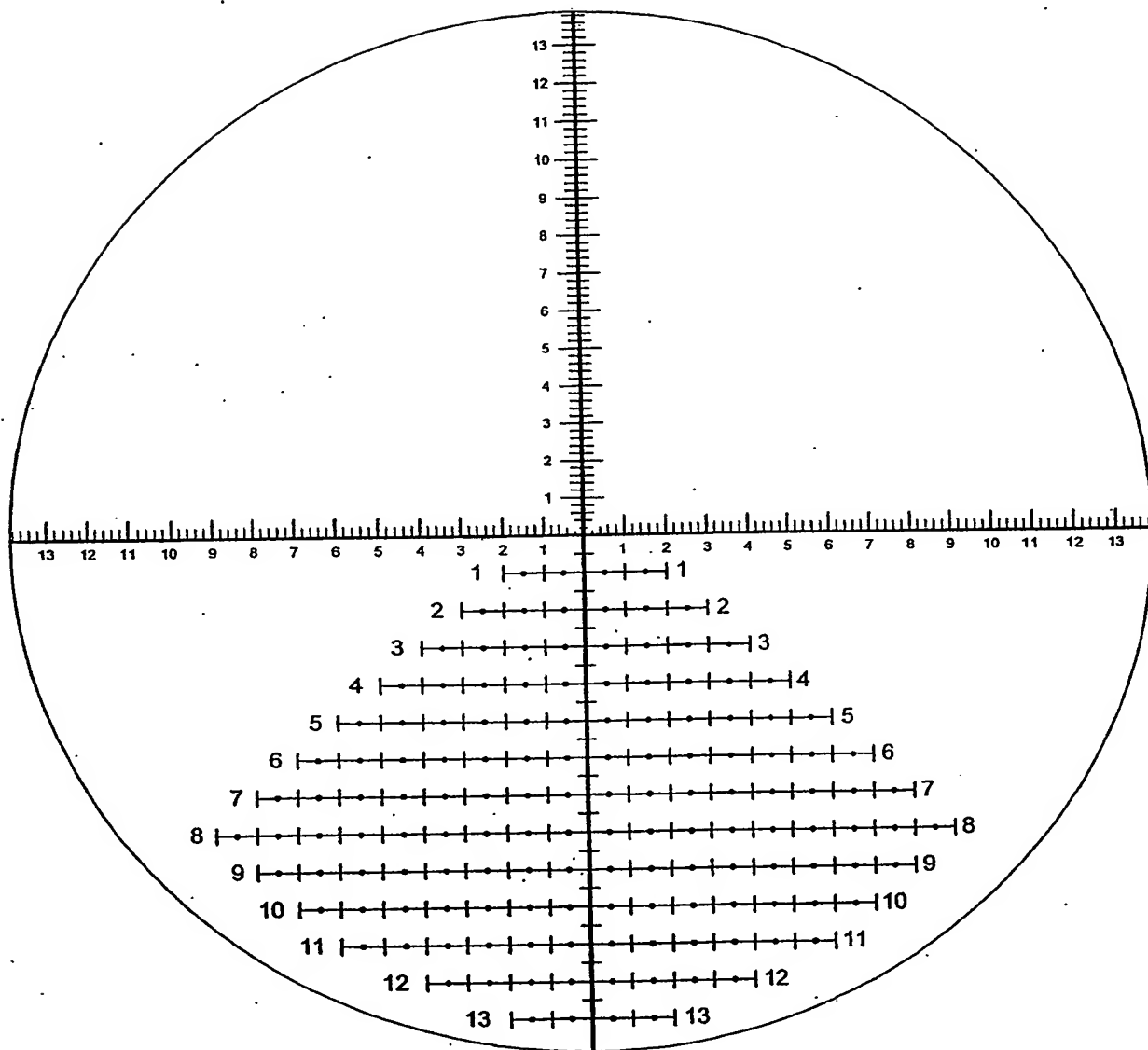
H-3

FIG. 25



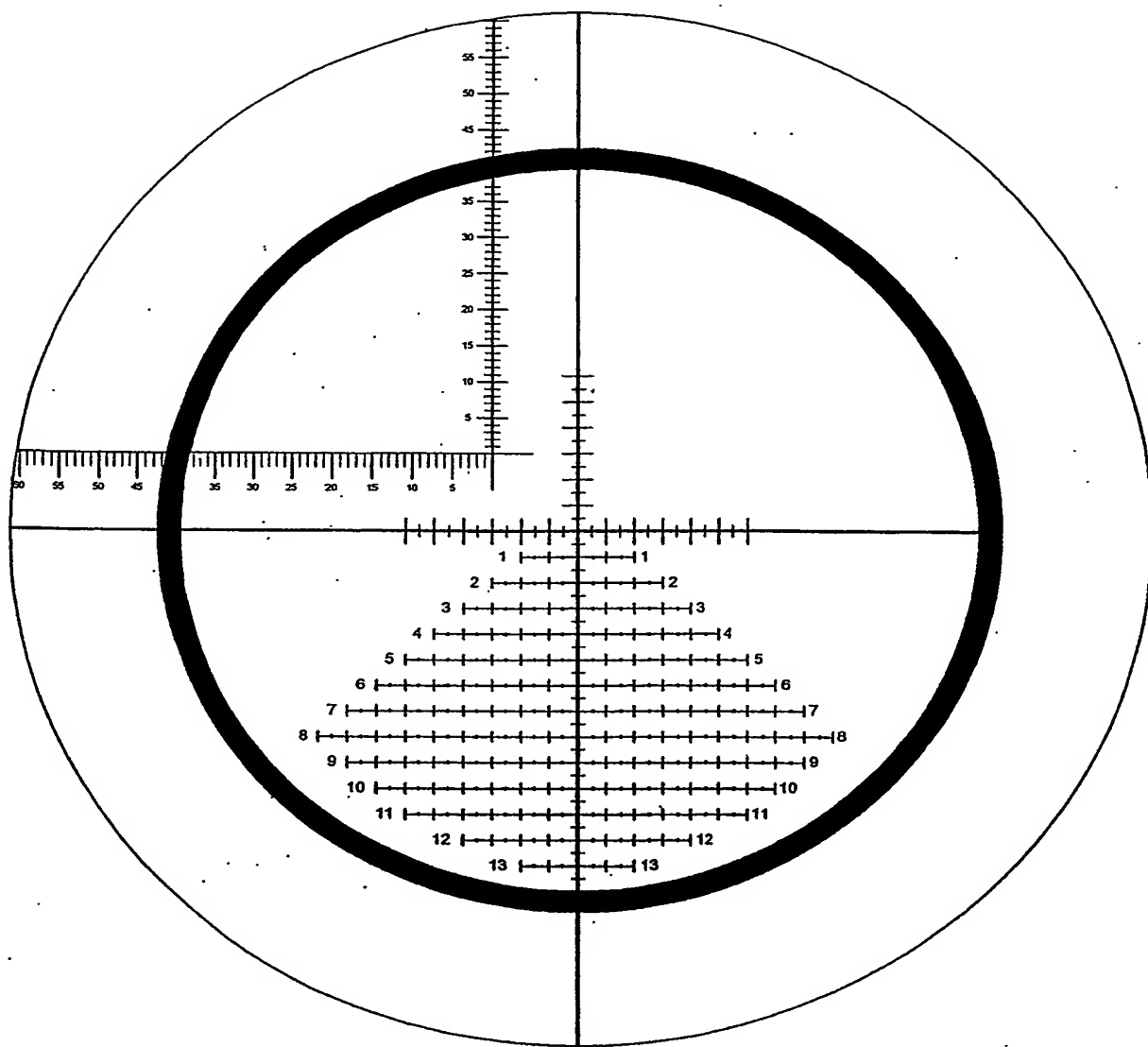
H-4

FIG. 26



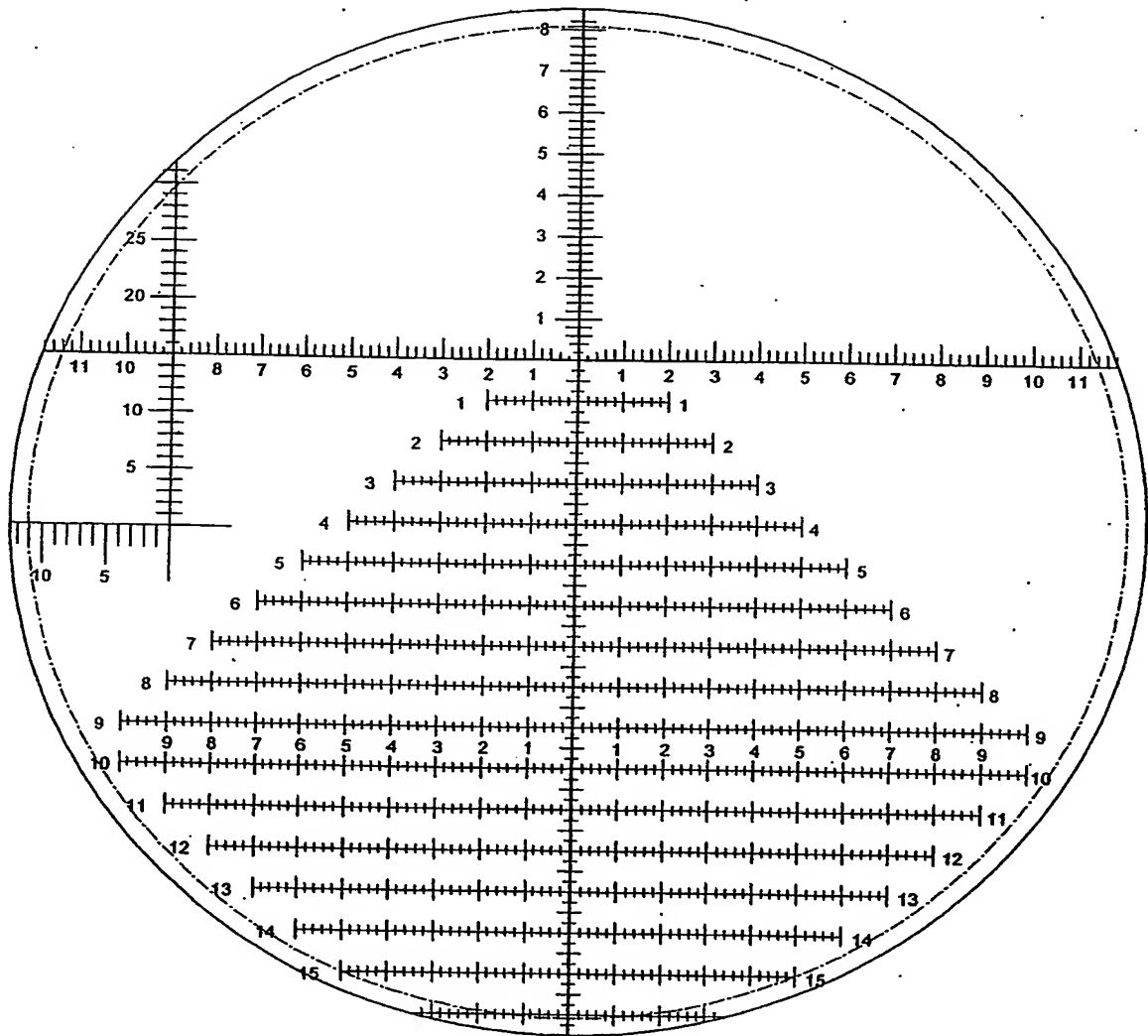
H-5

FIG. 27



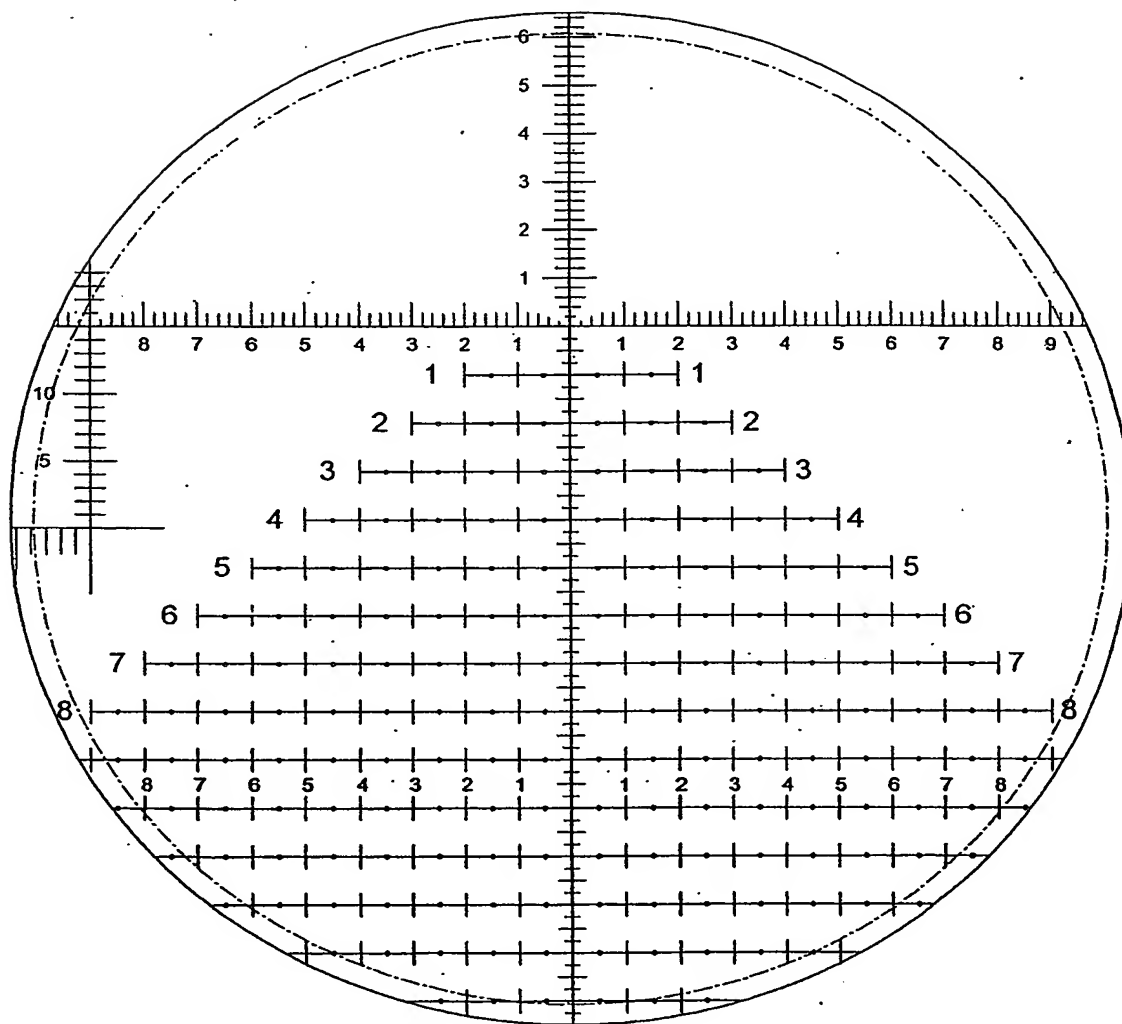
H-6

FIG. 28



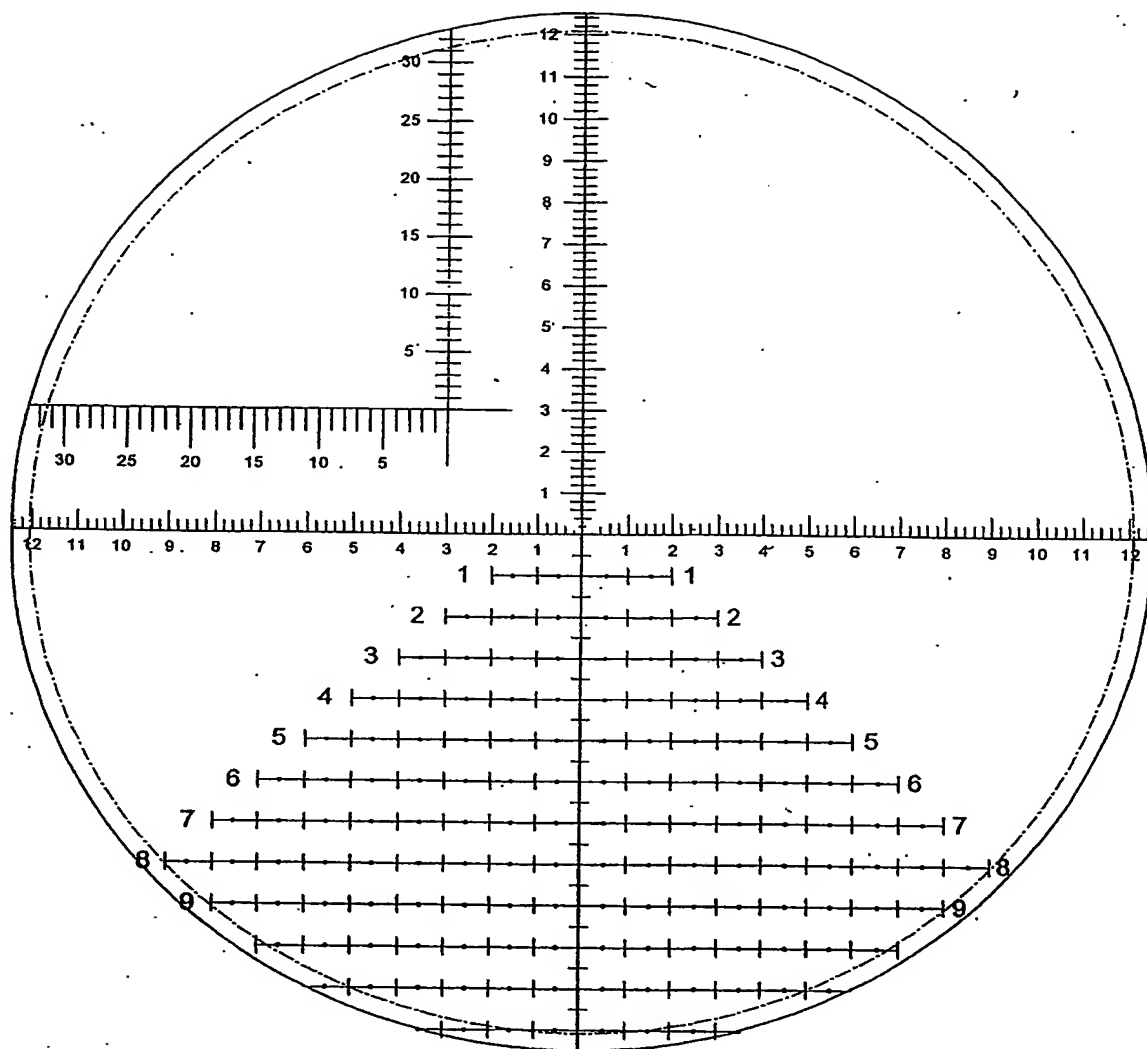
H-11

FIG. 29



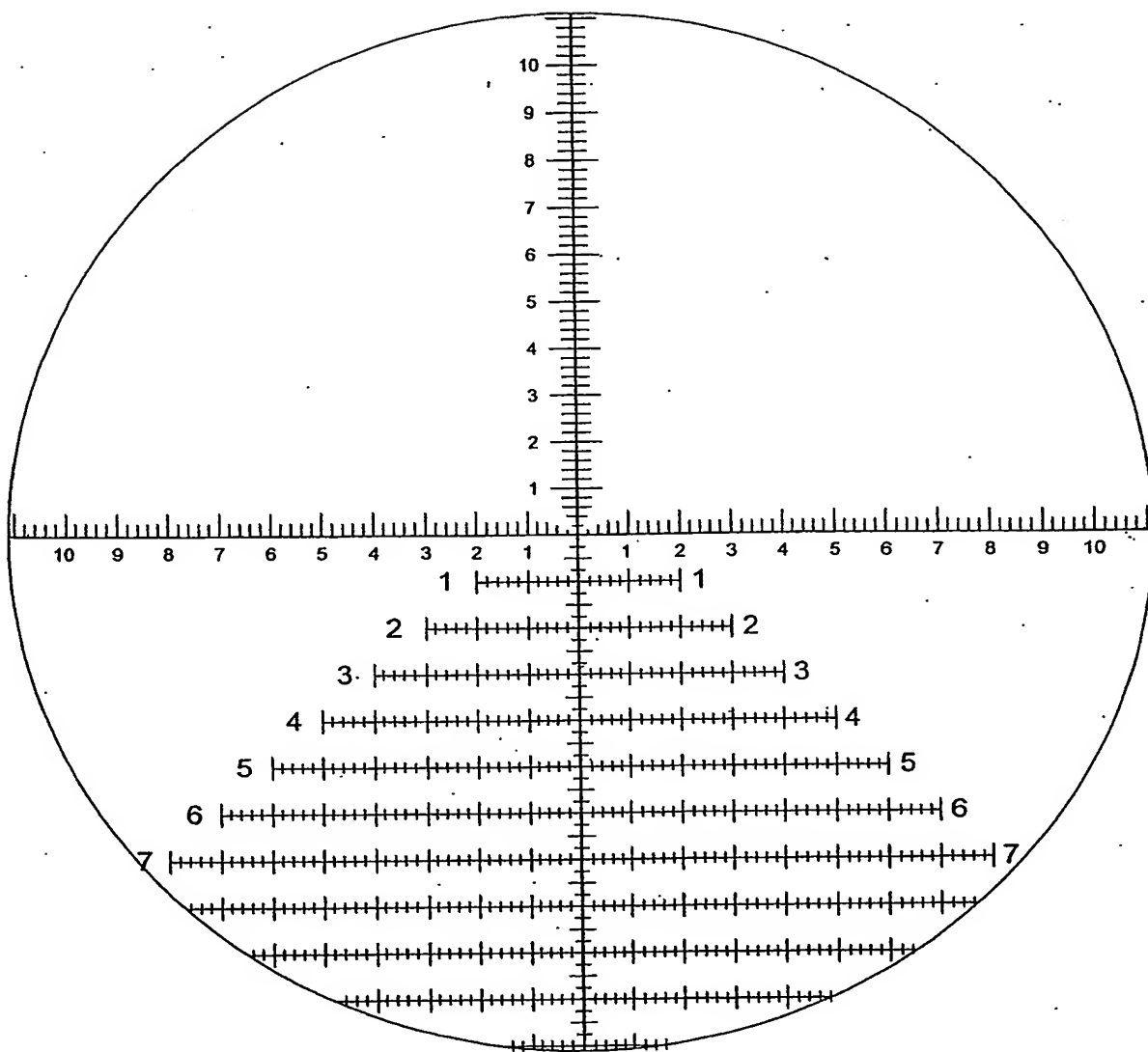
H-12

FIG. 30



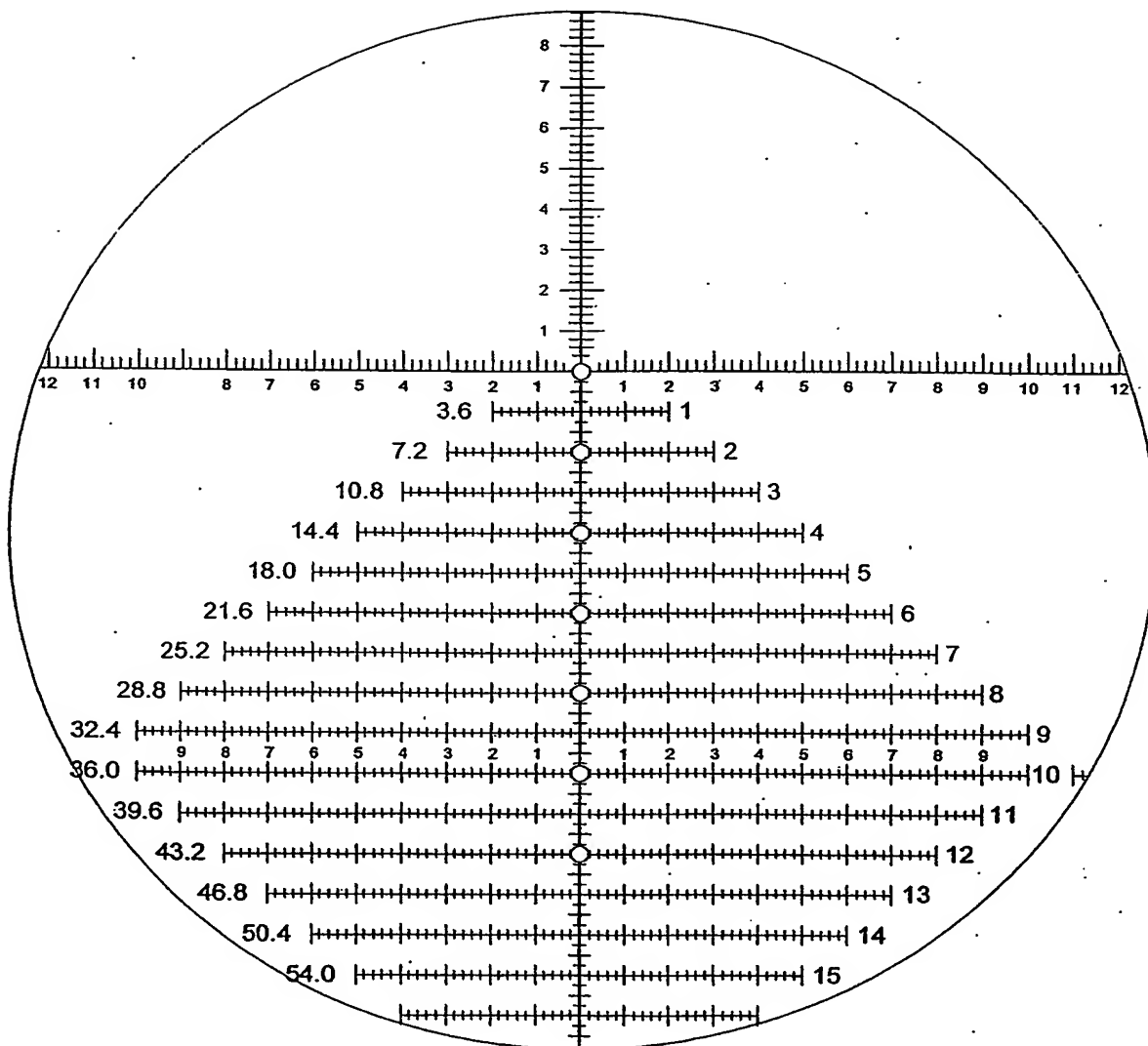
H-13

FIG. 31



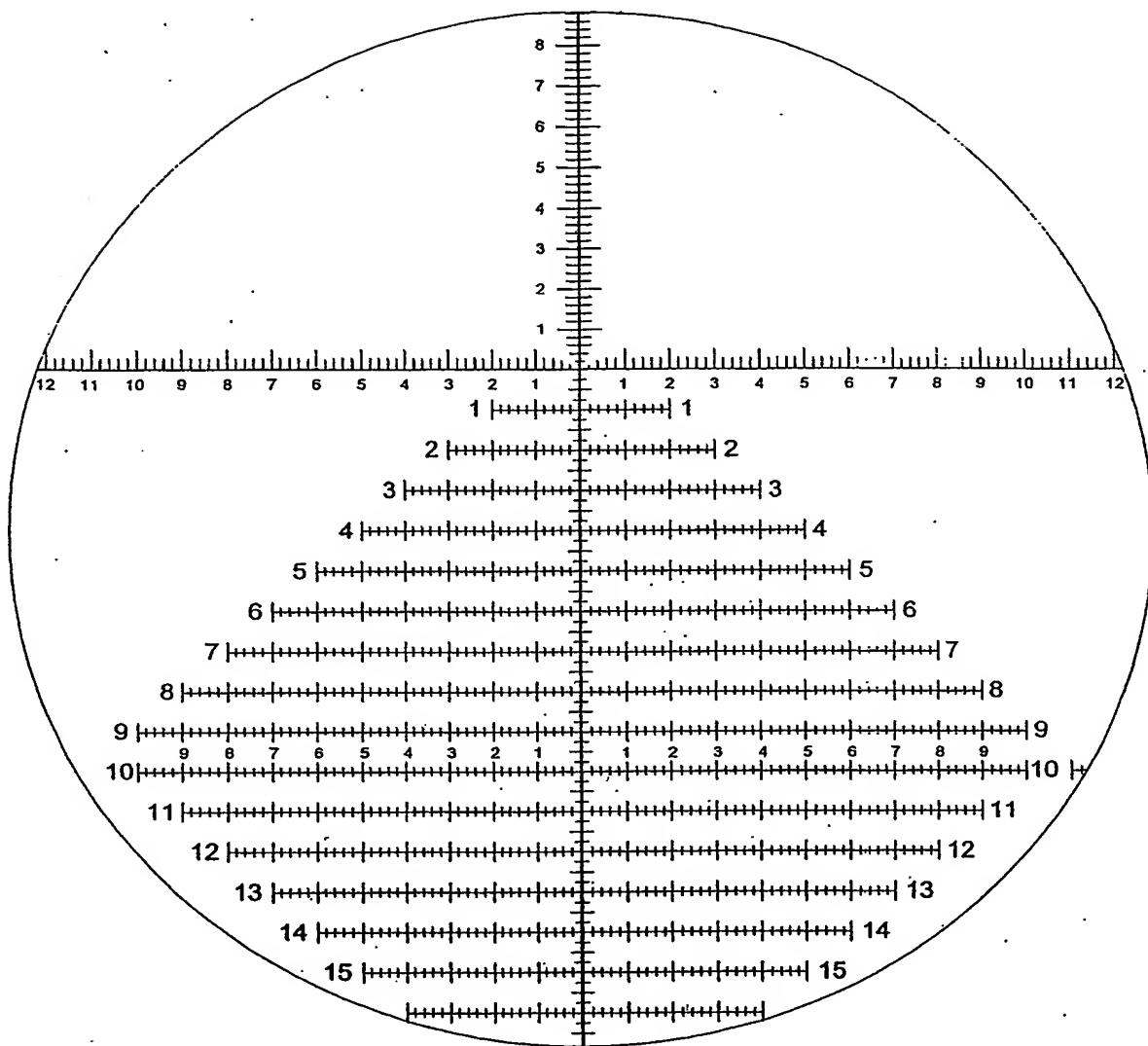
H-14

FIG. 32



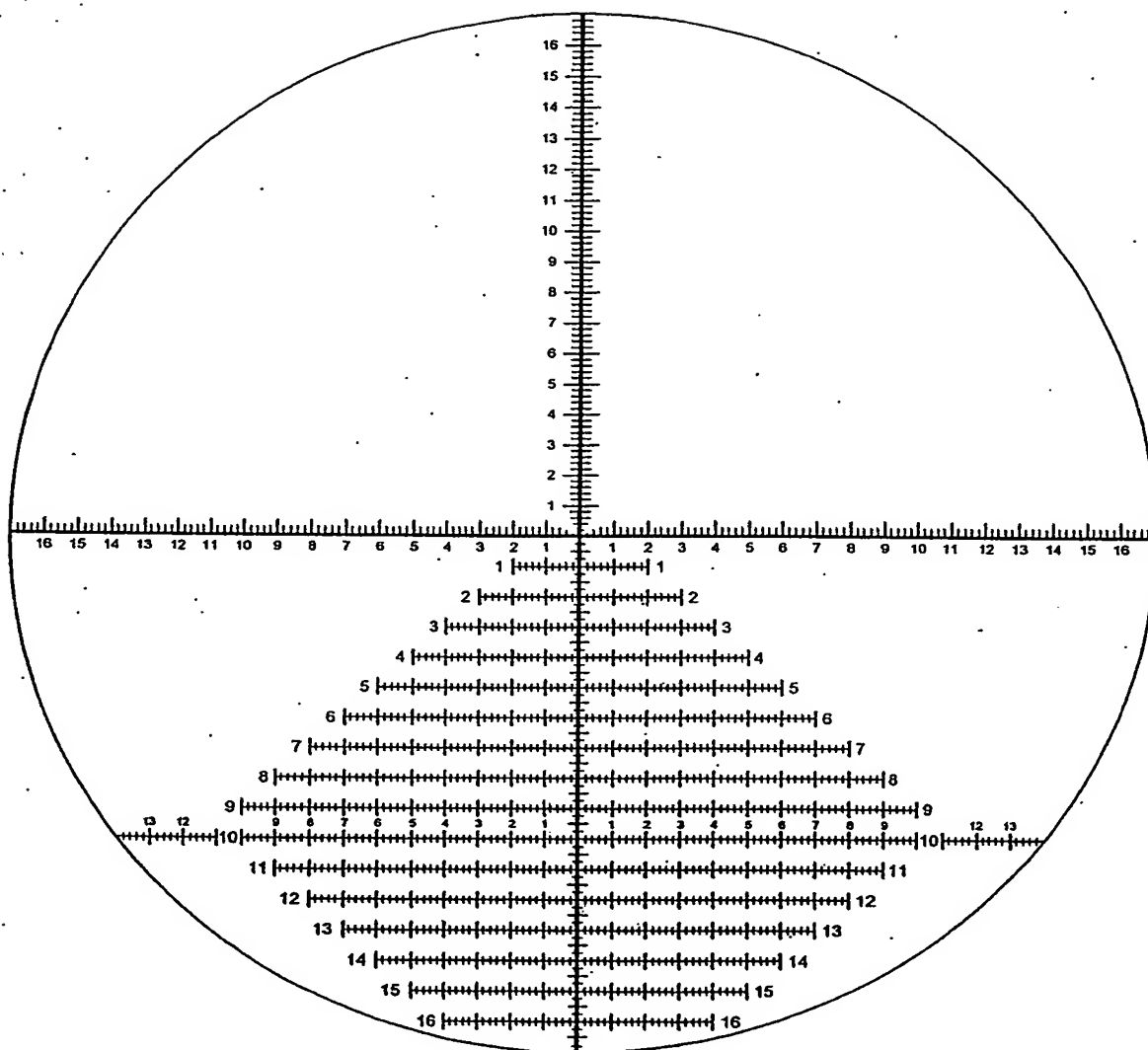
H-15

FIG. 33



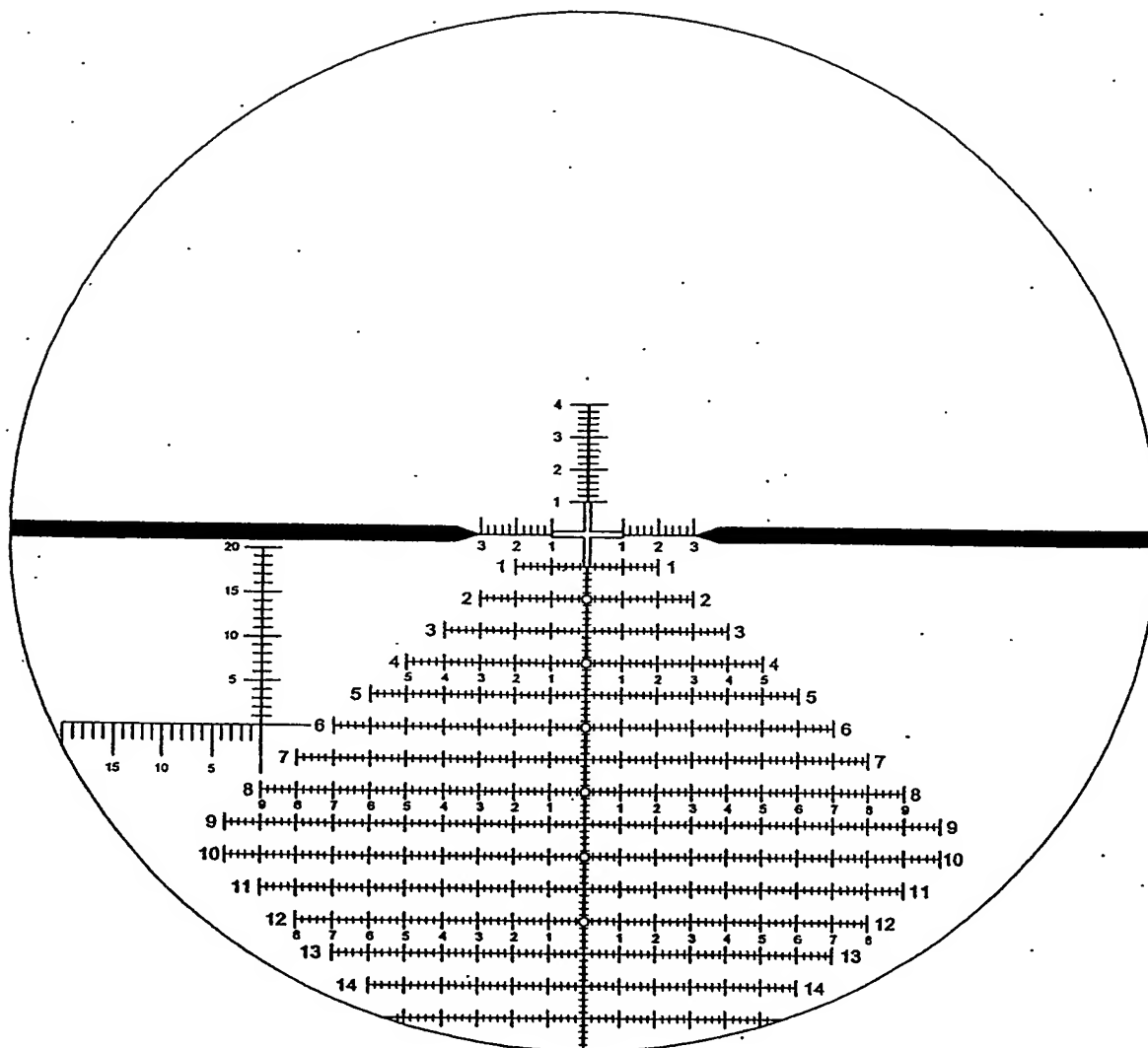
H-19

FIG. 34



H-21

FIG. 35



H-25

FIG. 35a

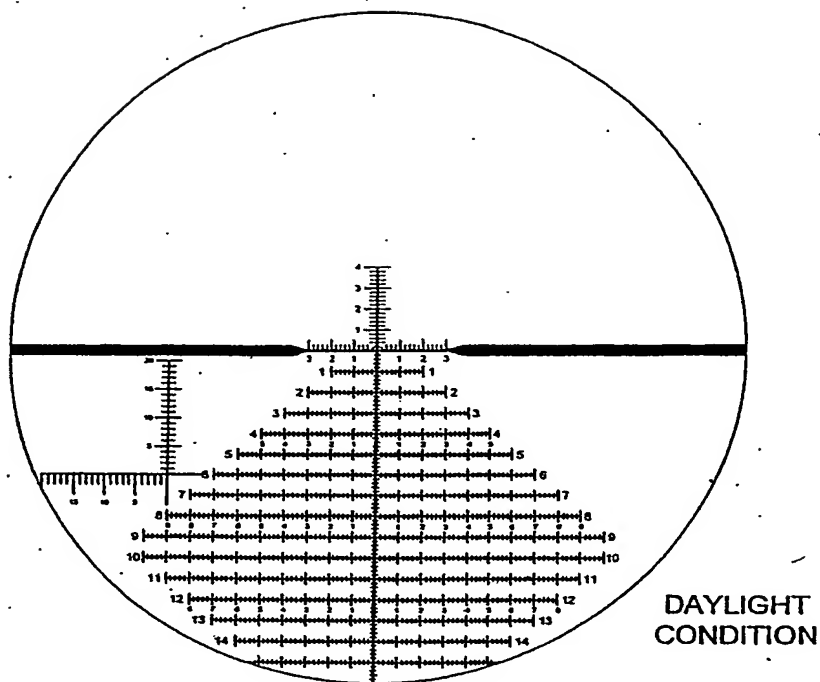


FIG. 35b

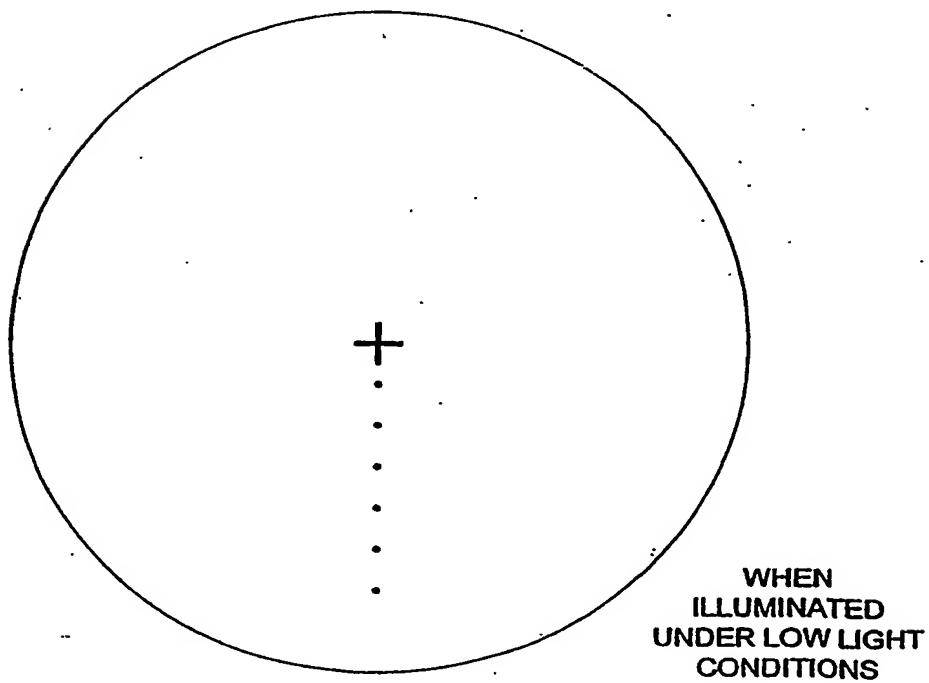
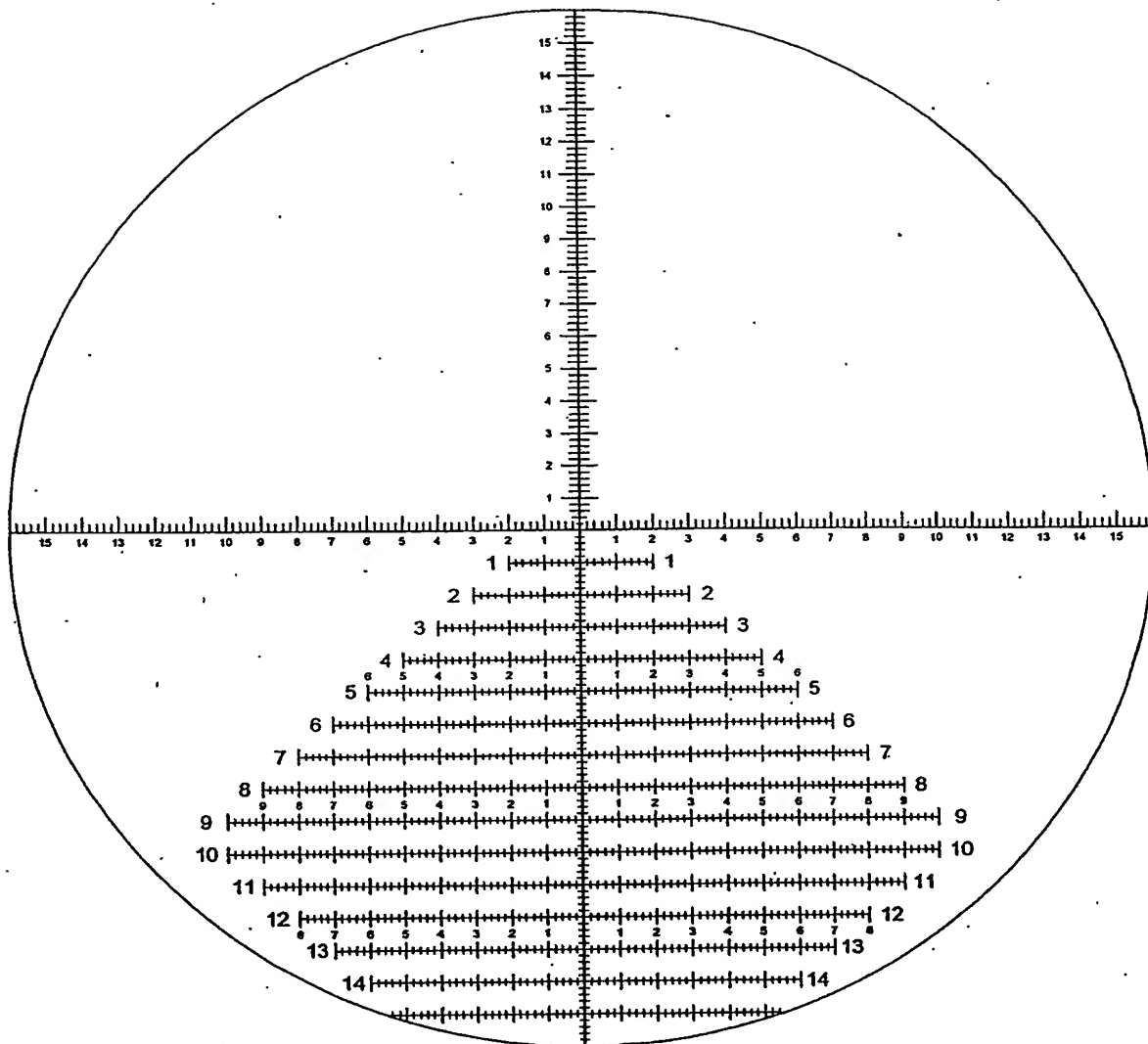
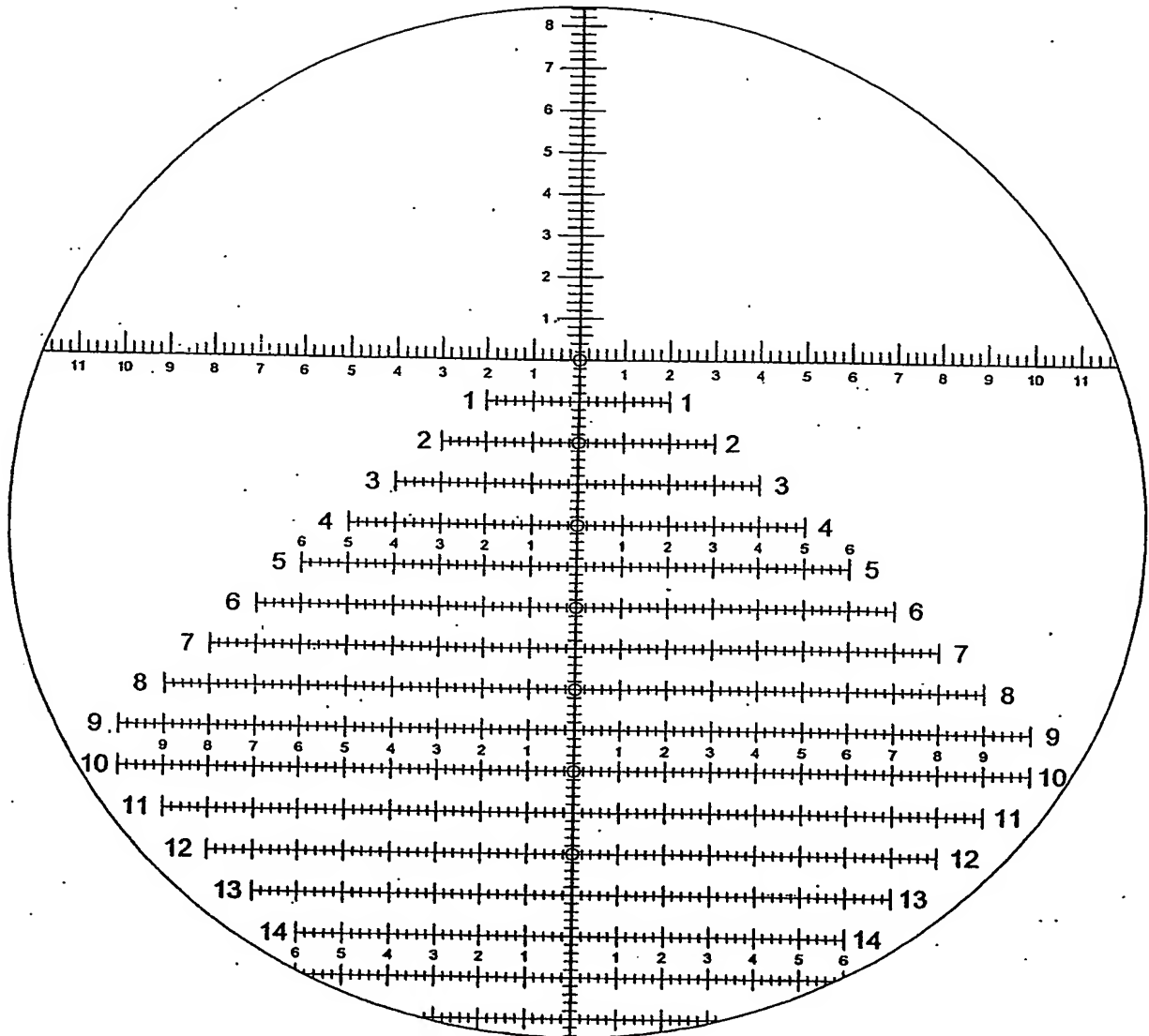


FIG. 36



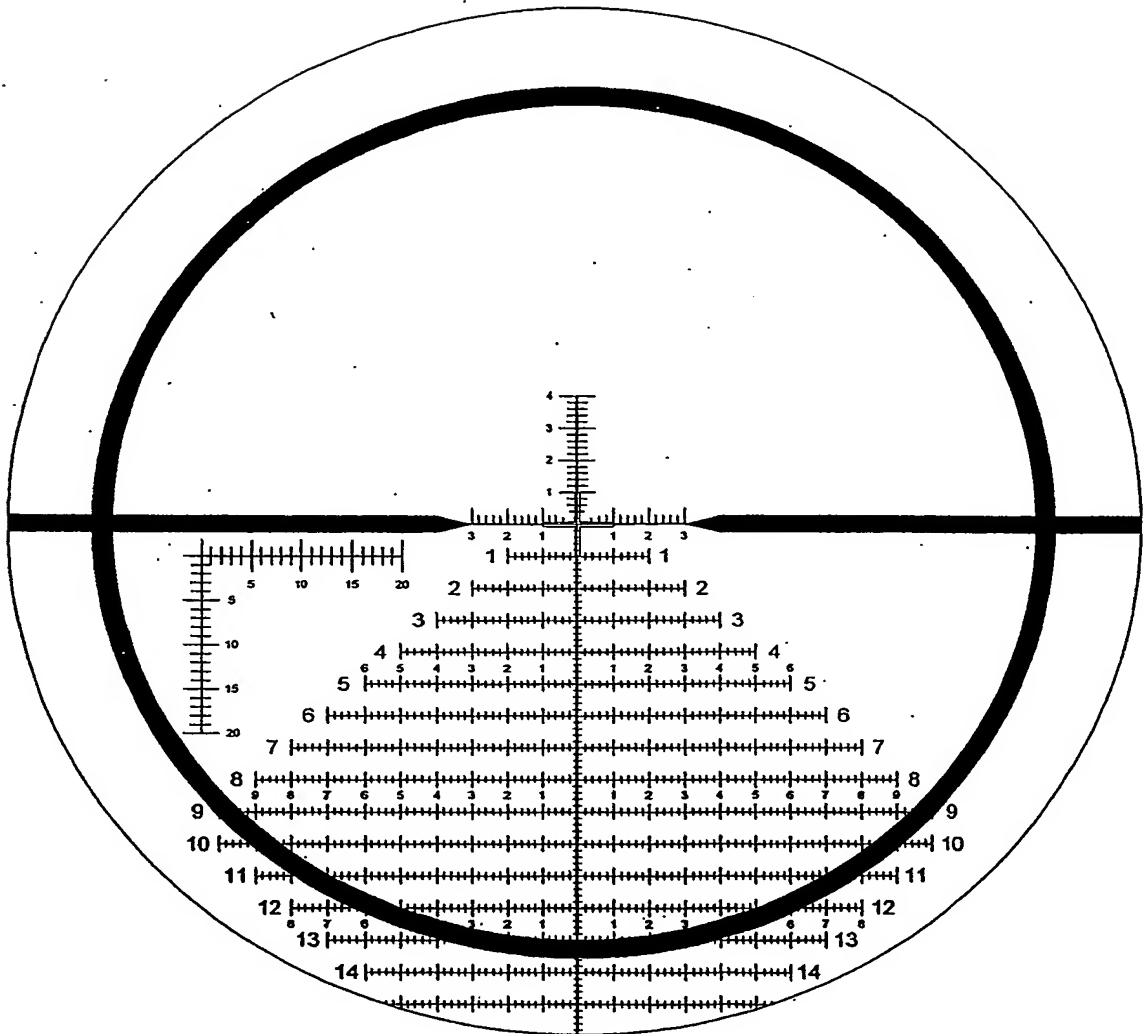
H-31

FIG. 37

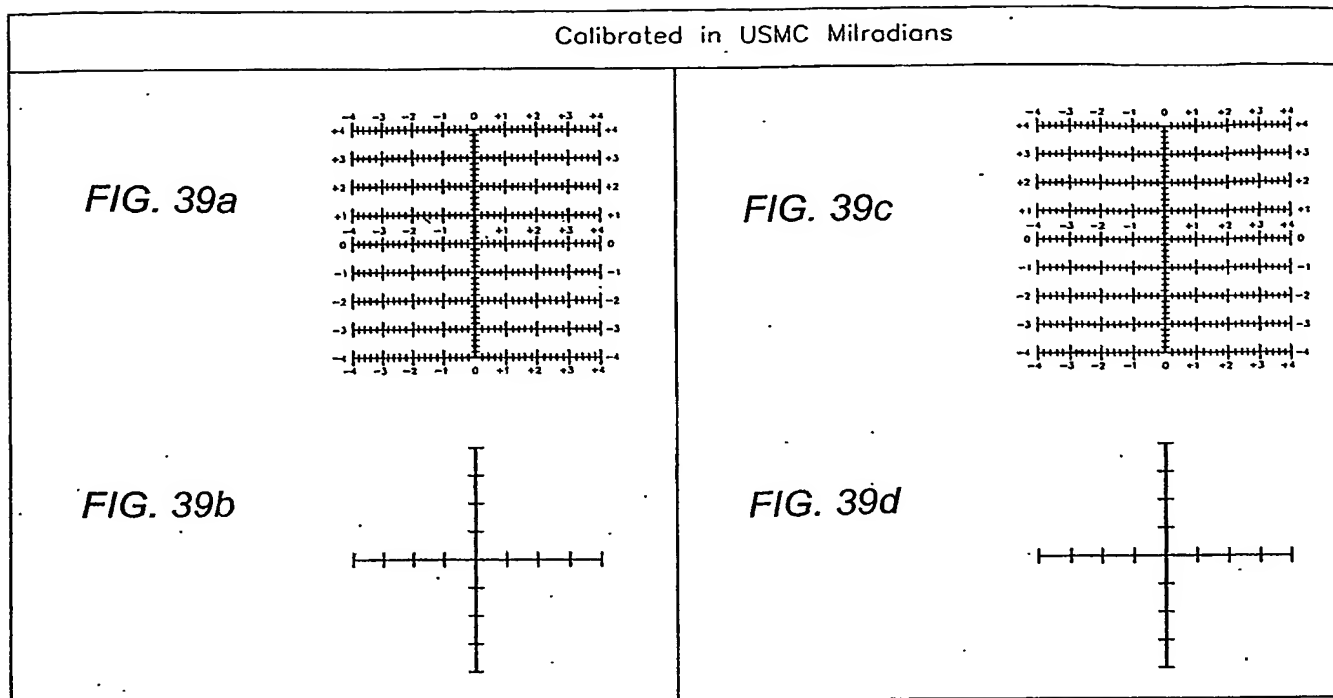


H-39

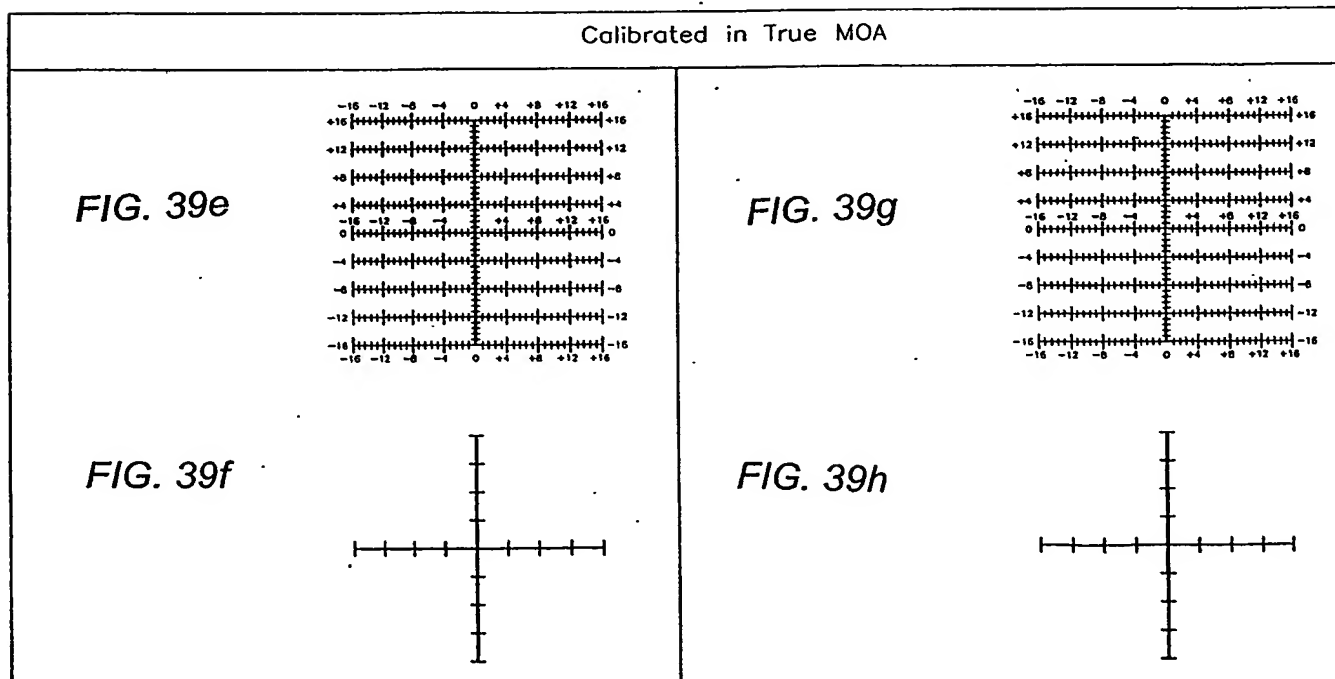
FIG. 38



H-45



Reticle can be used in 1st or 2nd plane.



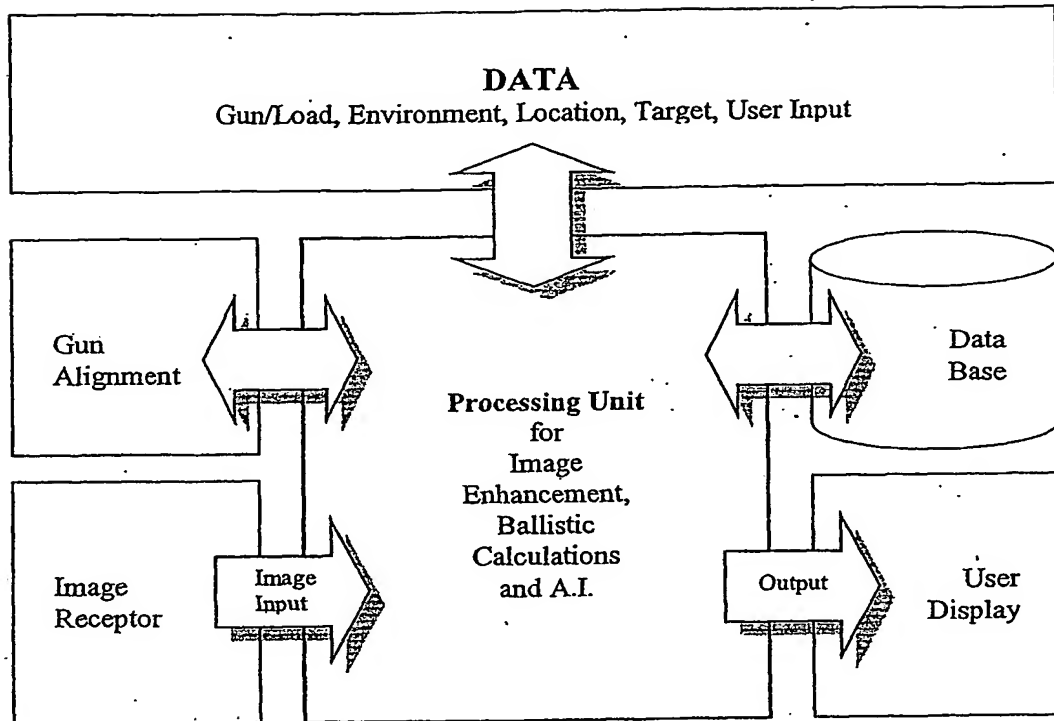


FIG. 40

FIG. 41a



FIG. 41b

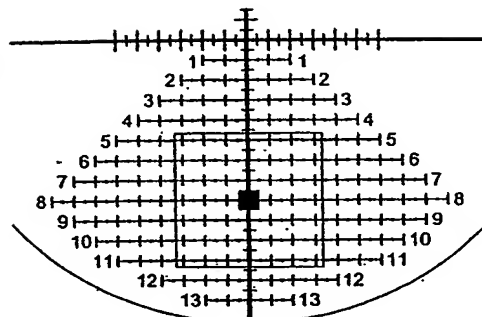


FIG. 41c

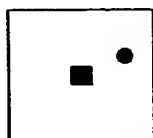


FIG. 41d

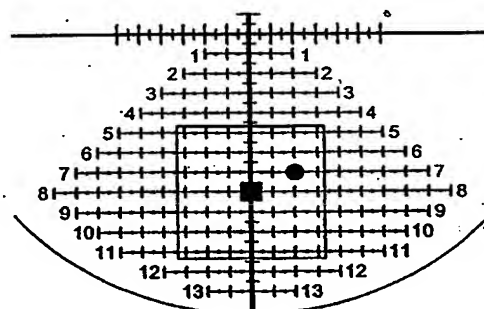


FIG. 41e

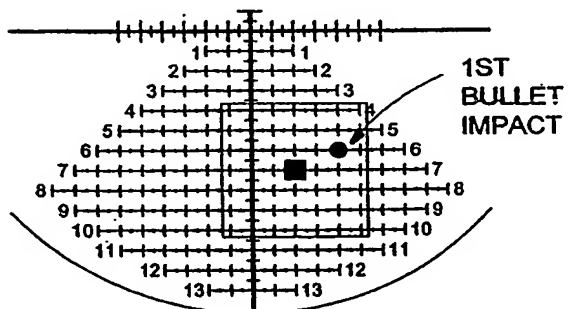


FIG. 41f

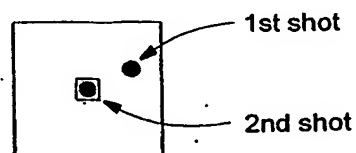
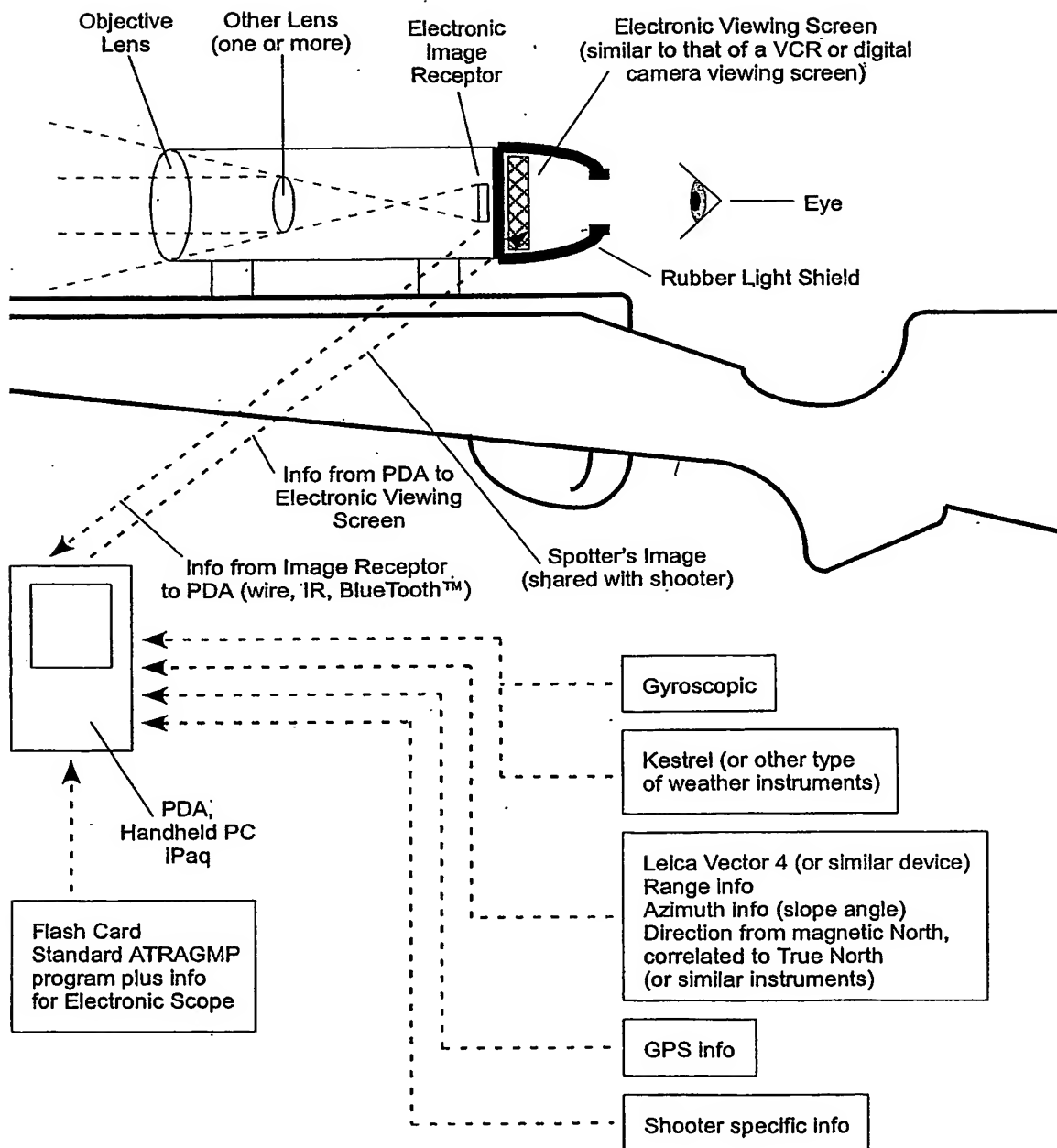
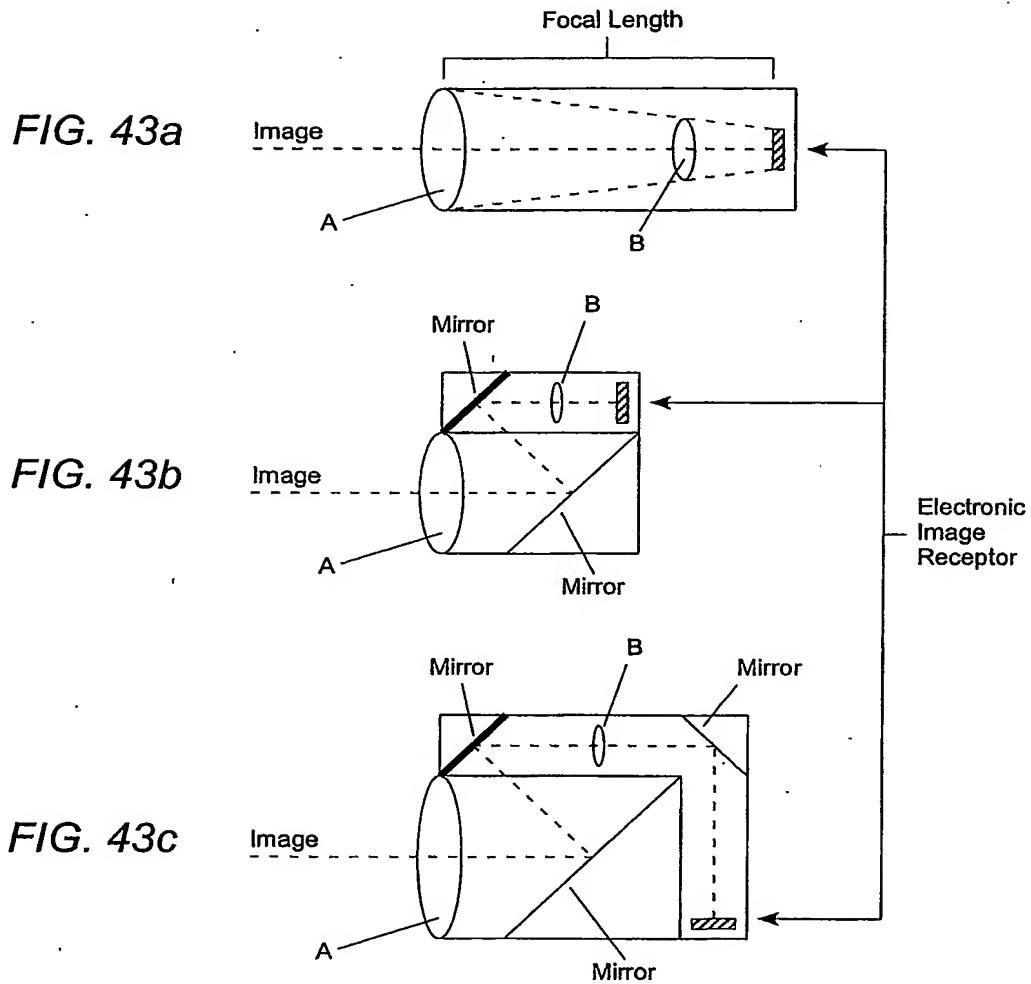


FIG. 42

Overview



Electronic Target Acquisition Device



A = Objective lens

B = Additional lenses (one or more)

FIG. 43a = Full focal length (long length tube)

FIG. 43b & FIG. 43c = Mirrors or prisms to reduce scope length

FIG. 44a

FIG. 44b

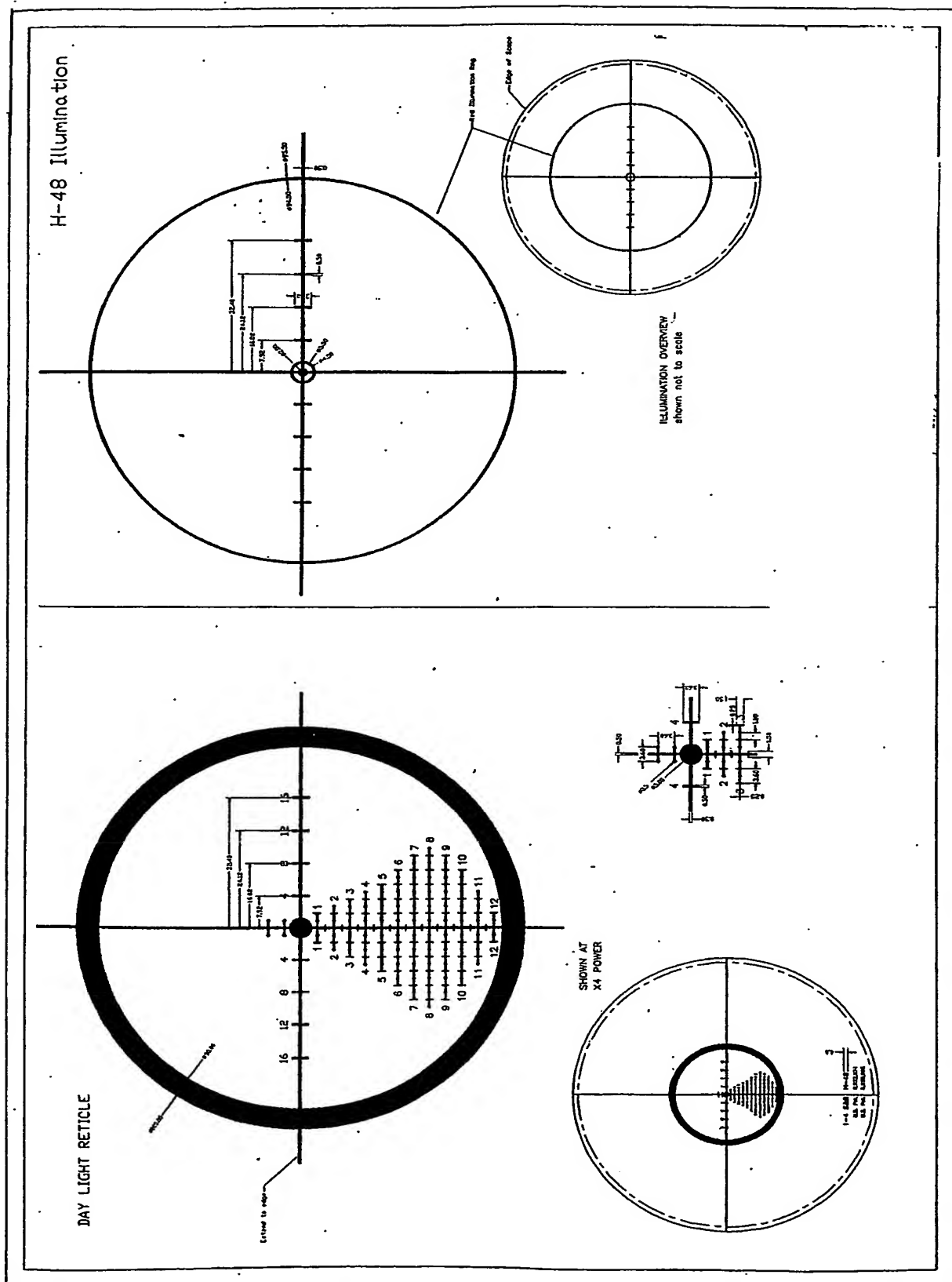


FIG. 45a

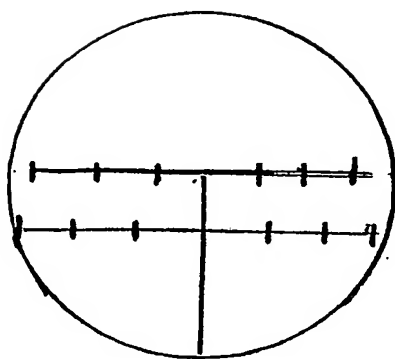


FIG. 45b

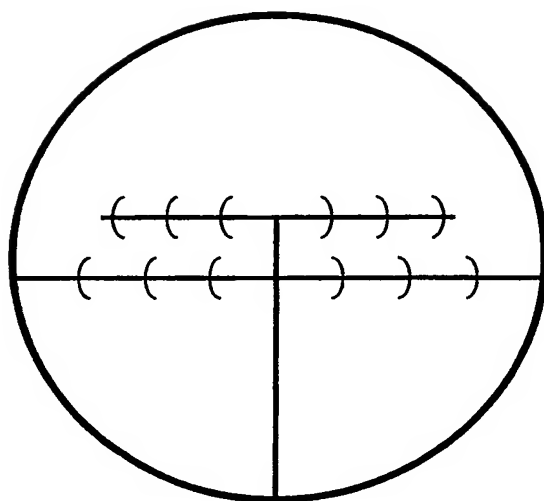


FIG. 45c

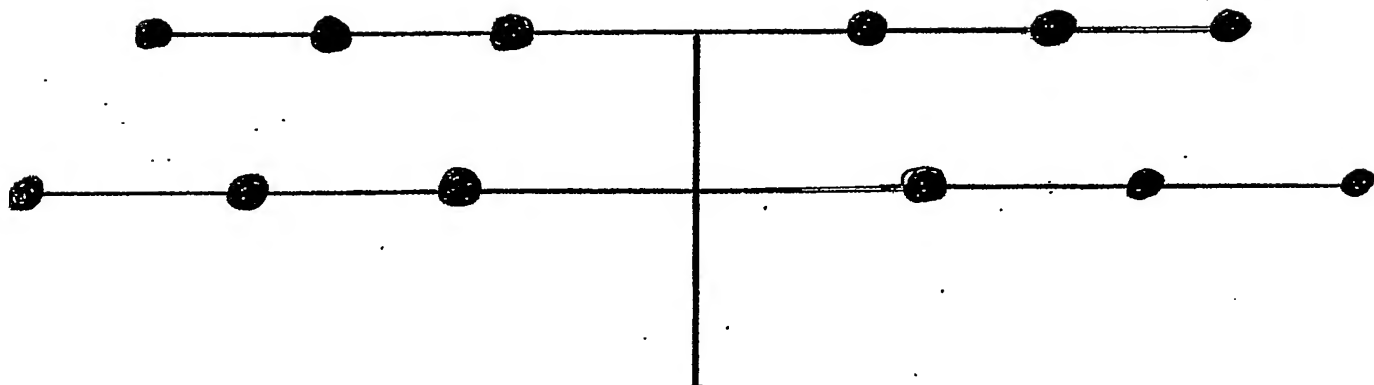


FIG. 45d

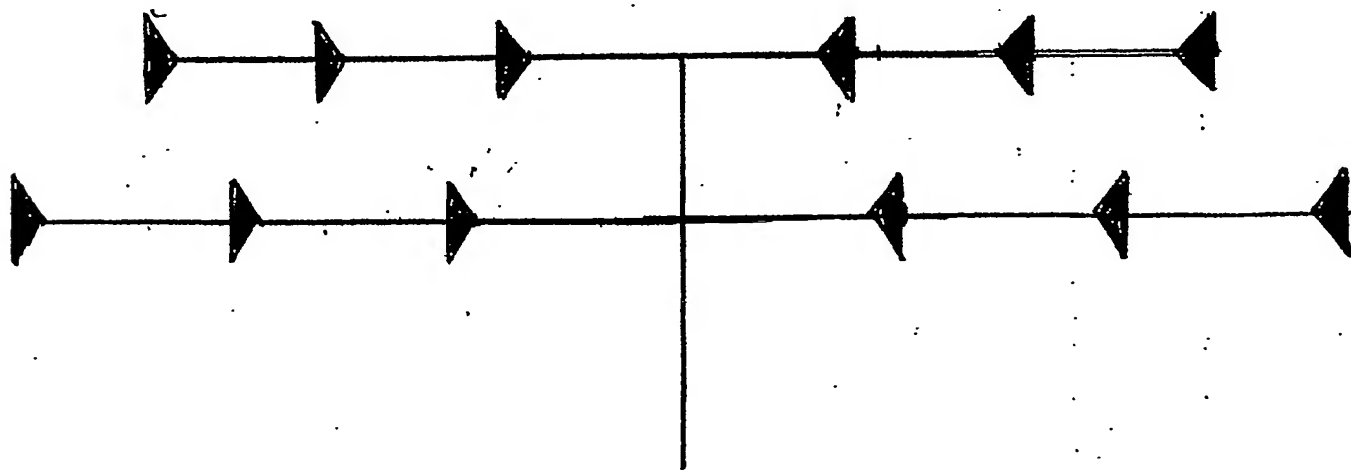


FIG. 45e

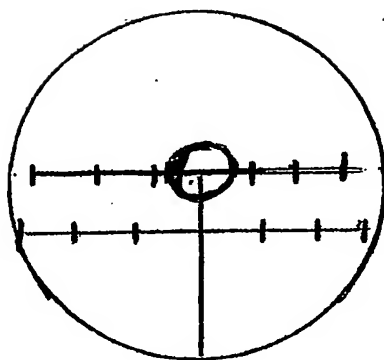


FIG. 45f

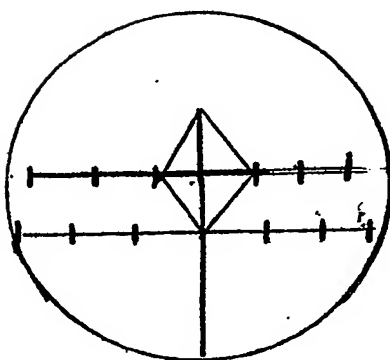


FIG. 46a

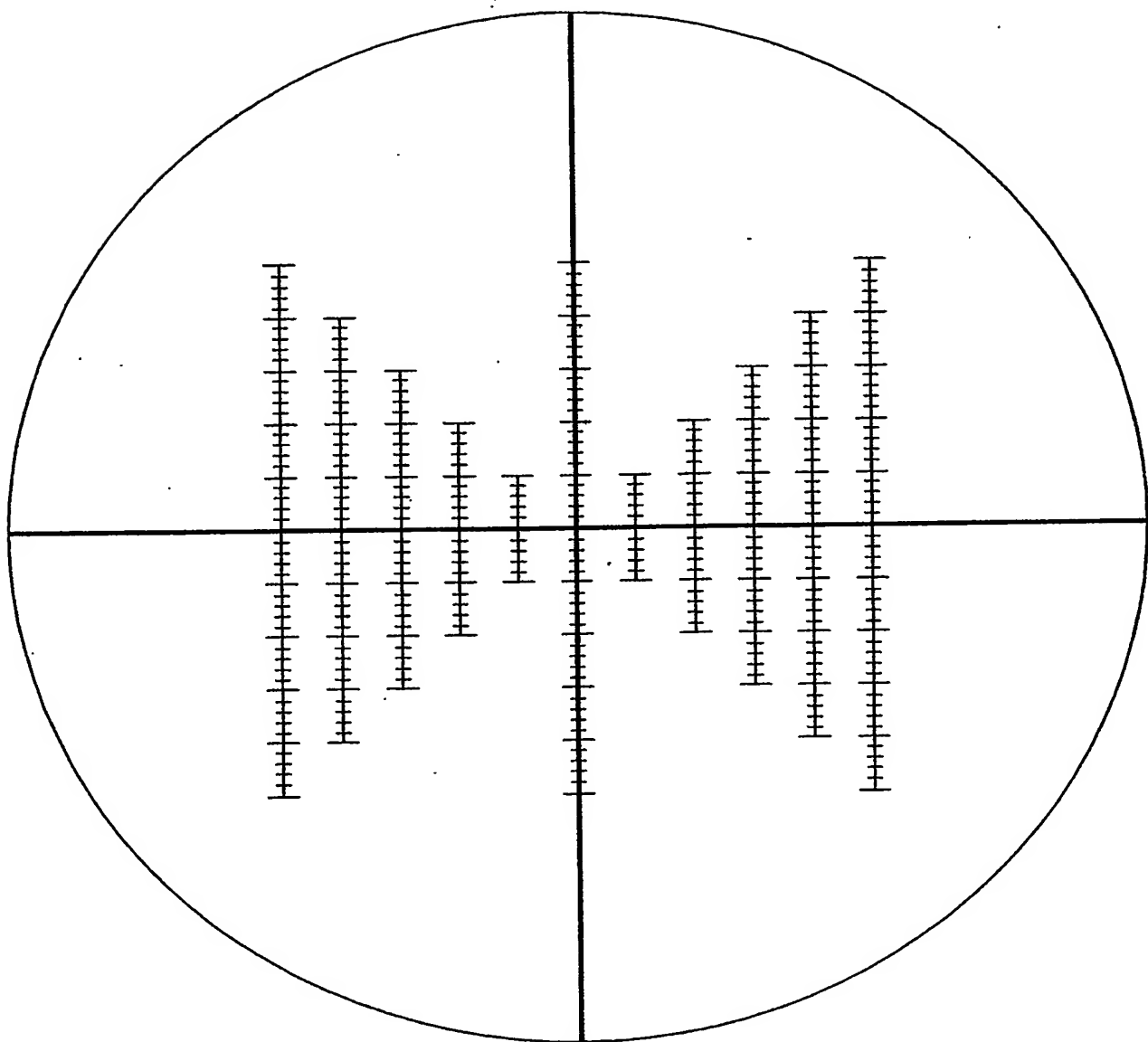


FIG. 46b

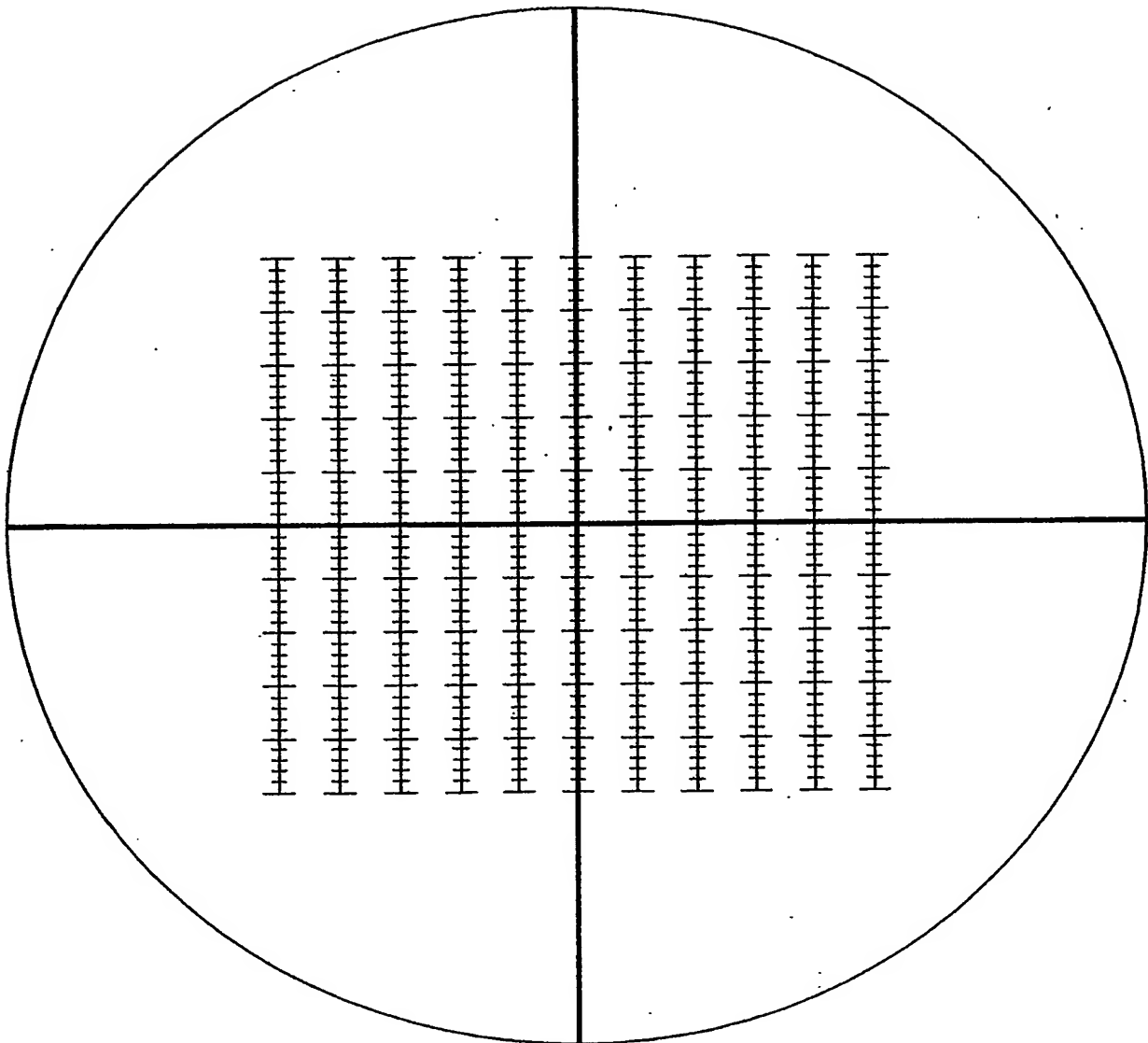


FIG. 47

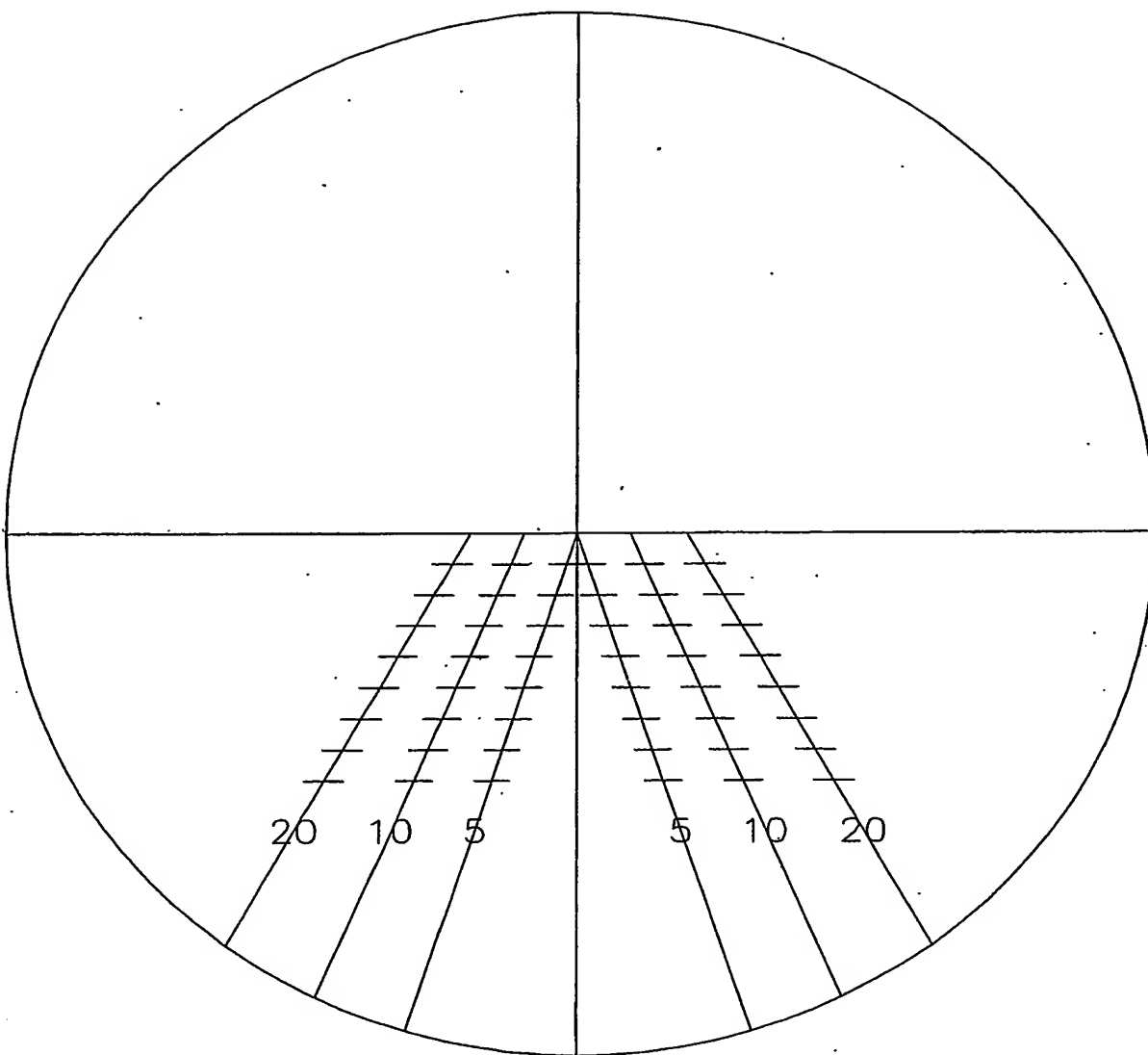


FIG. 48a

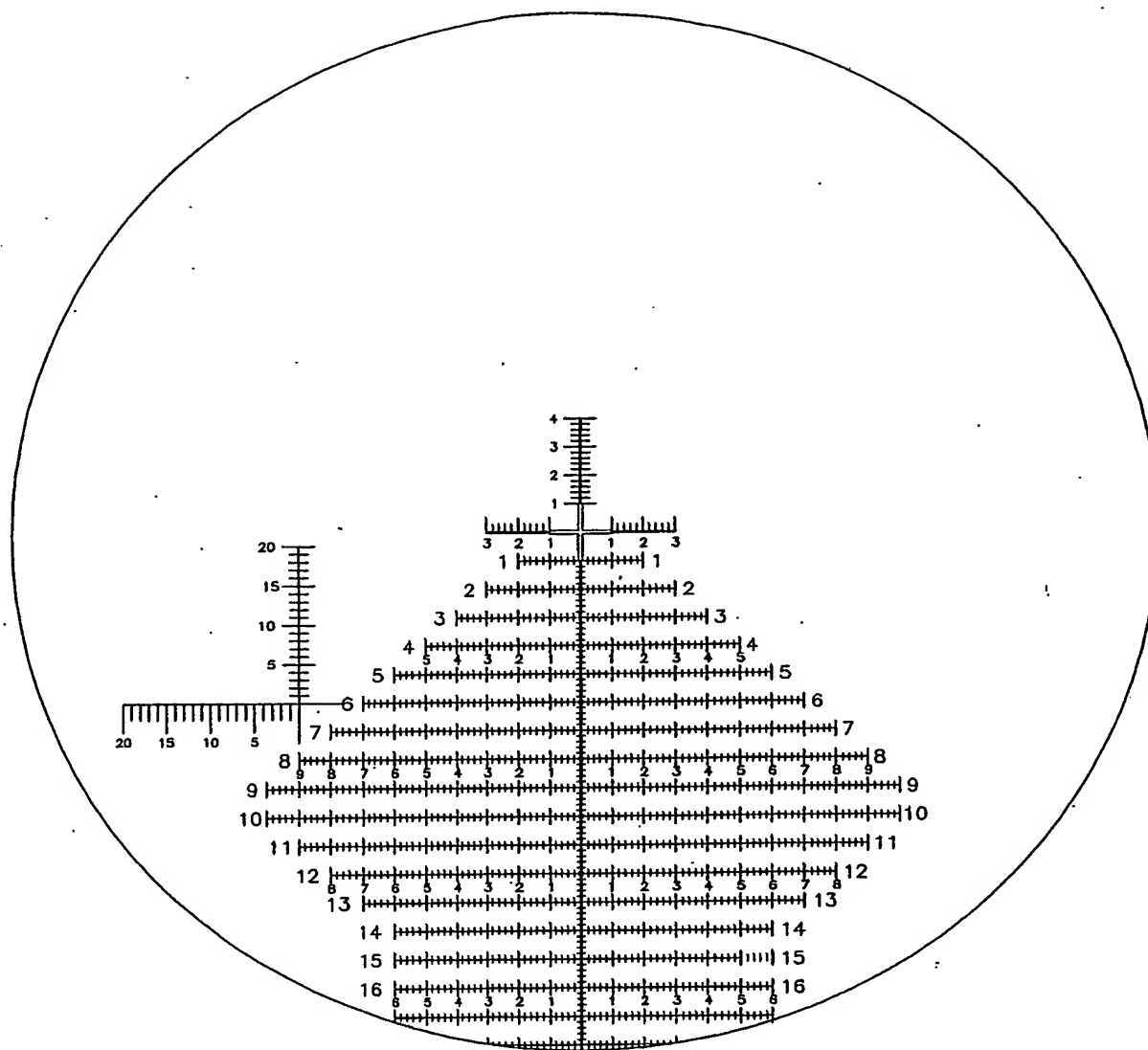


FIG. 48b

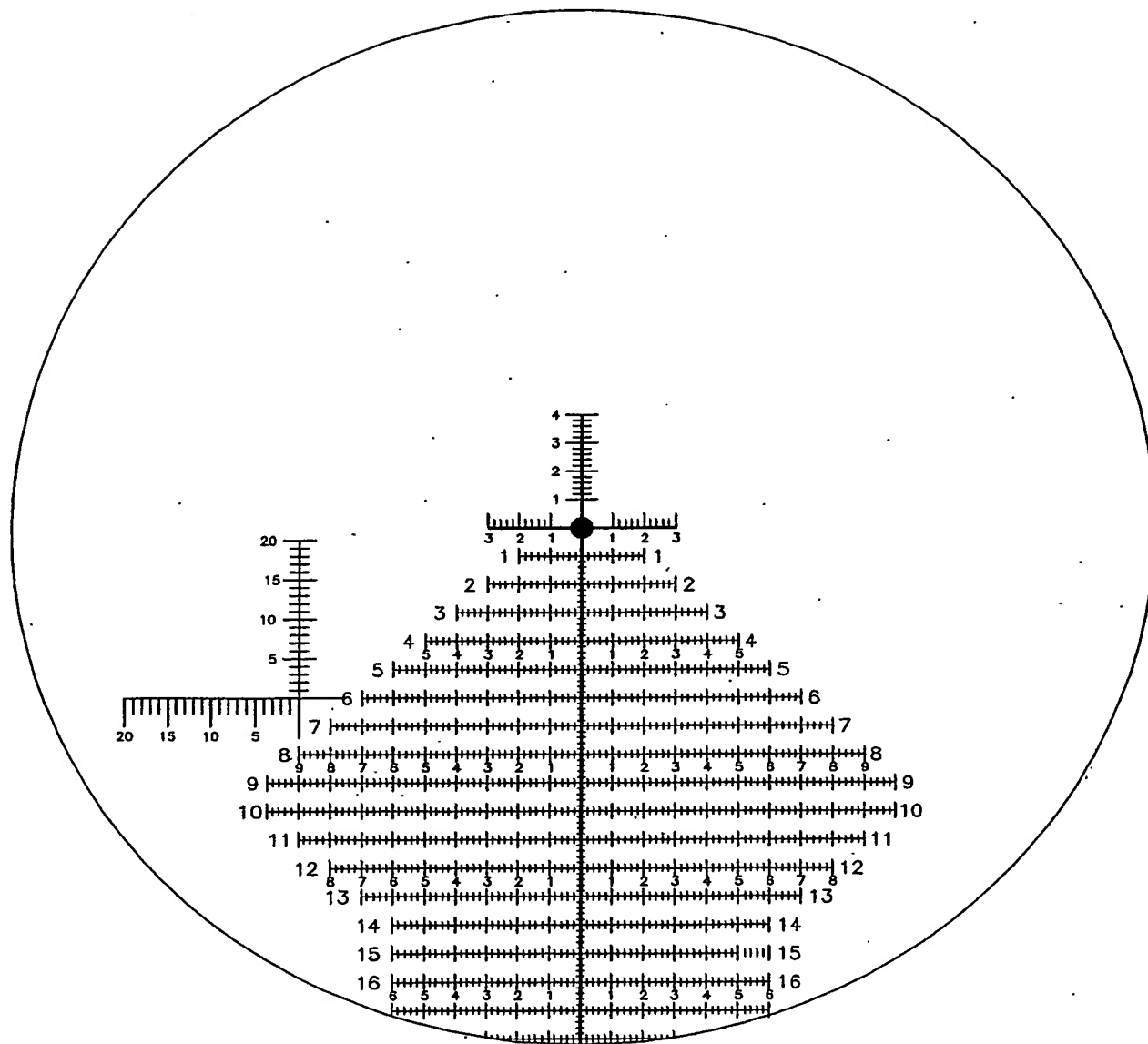


FIG. 49

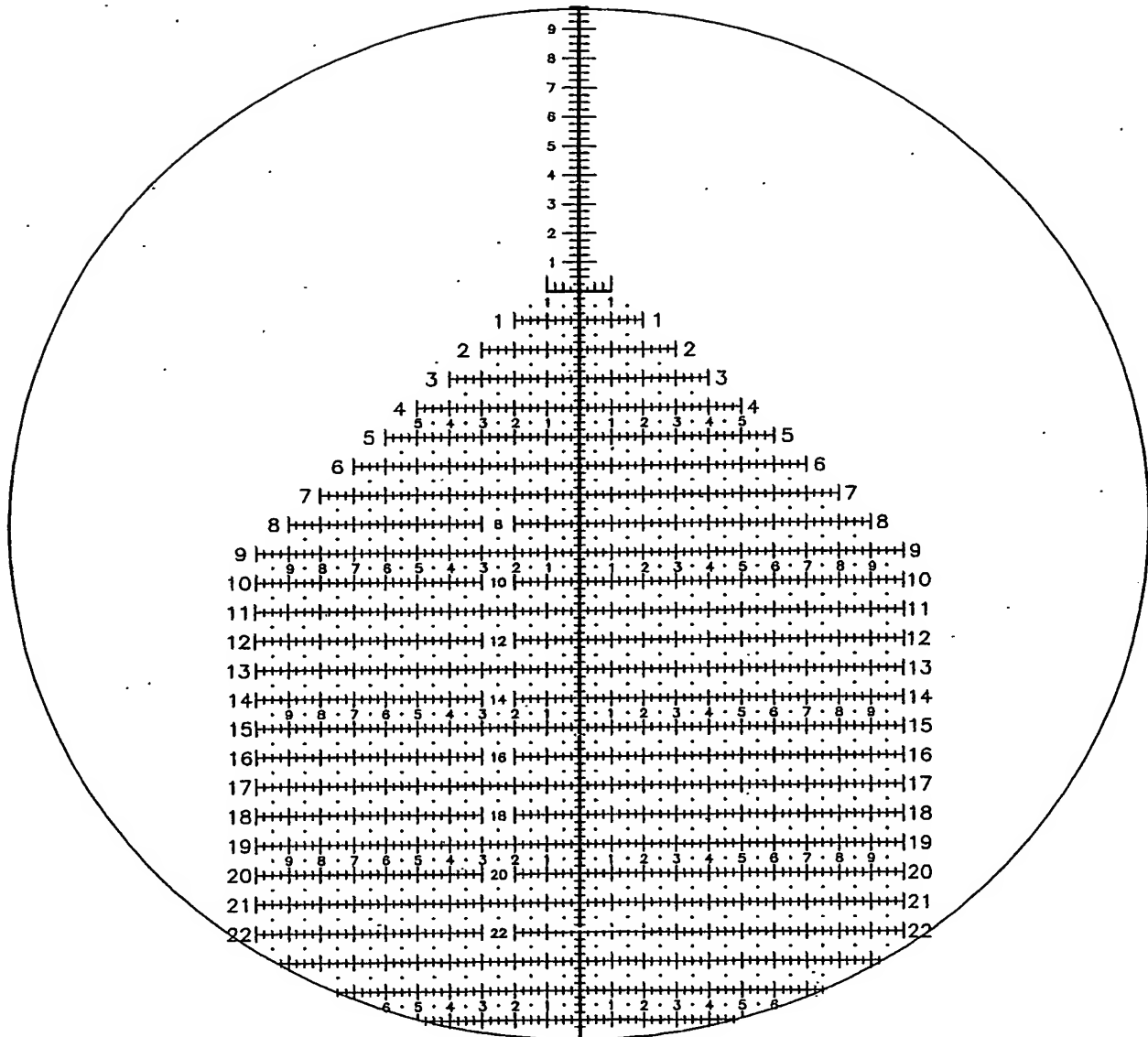


FIG. 50a

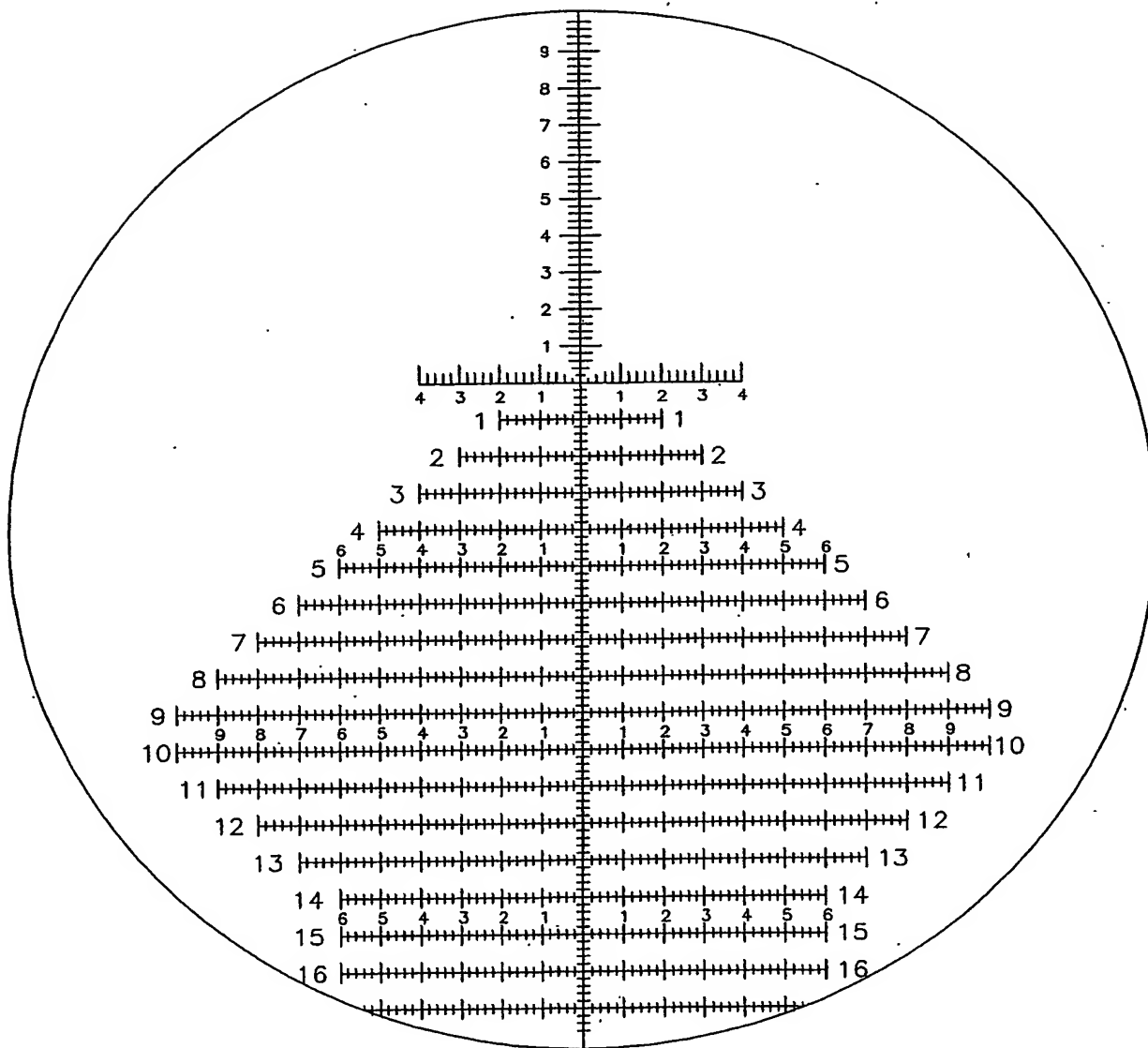


FIG. 50b

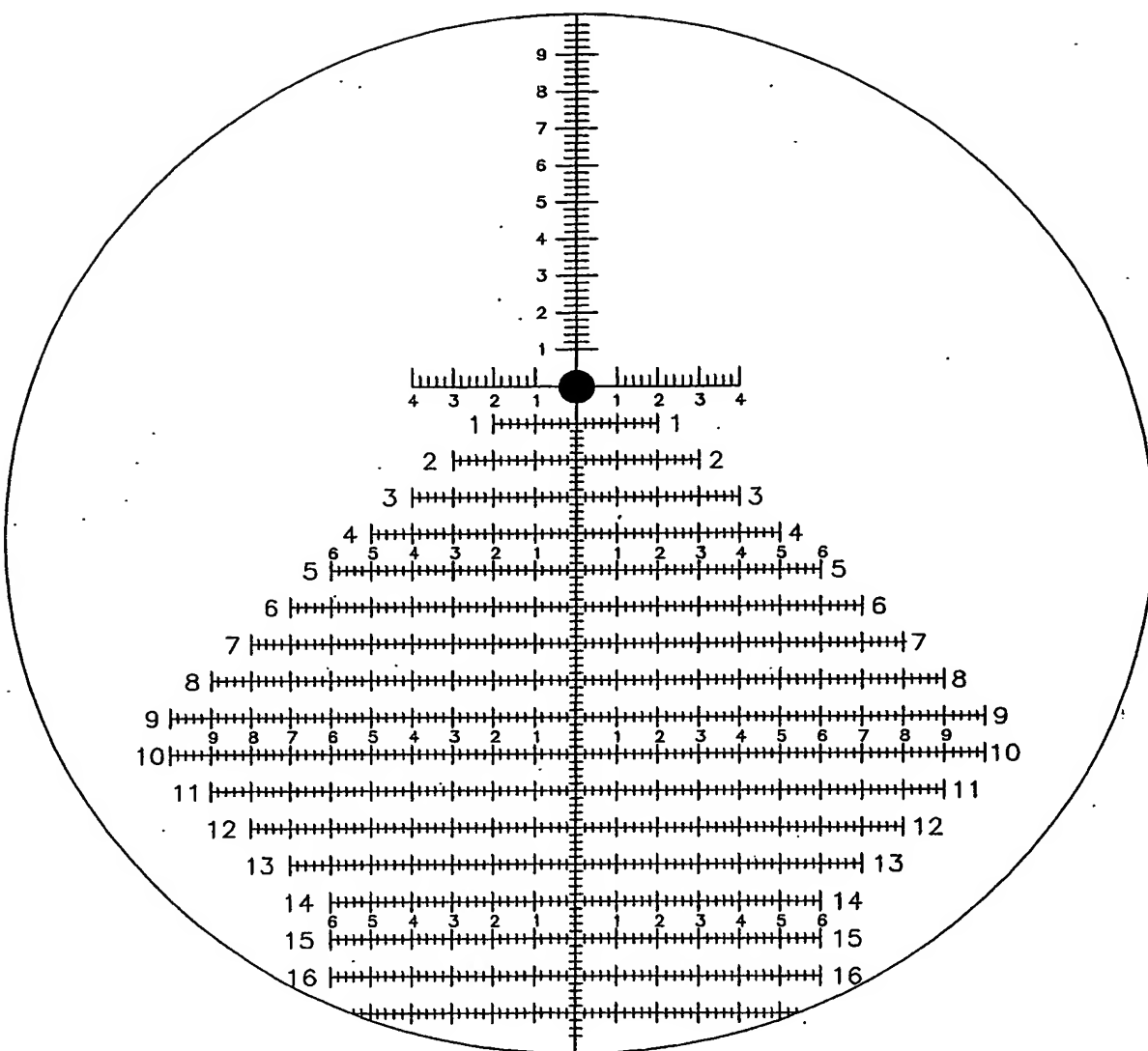


FIG. 51a

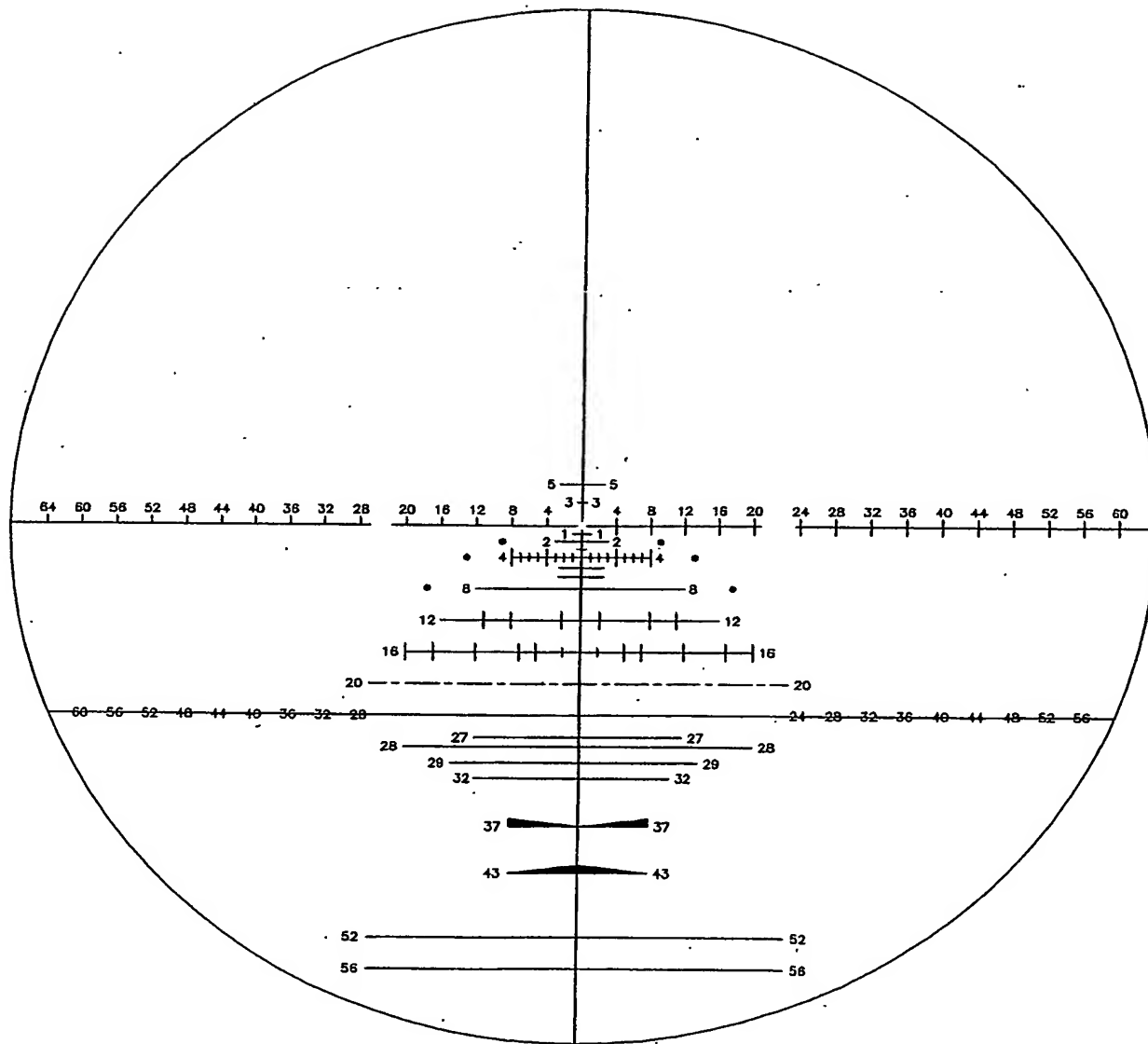


FIG. 51b

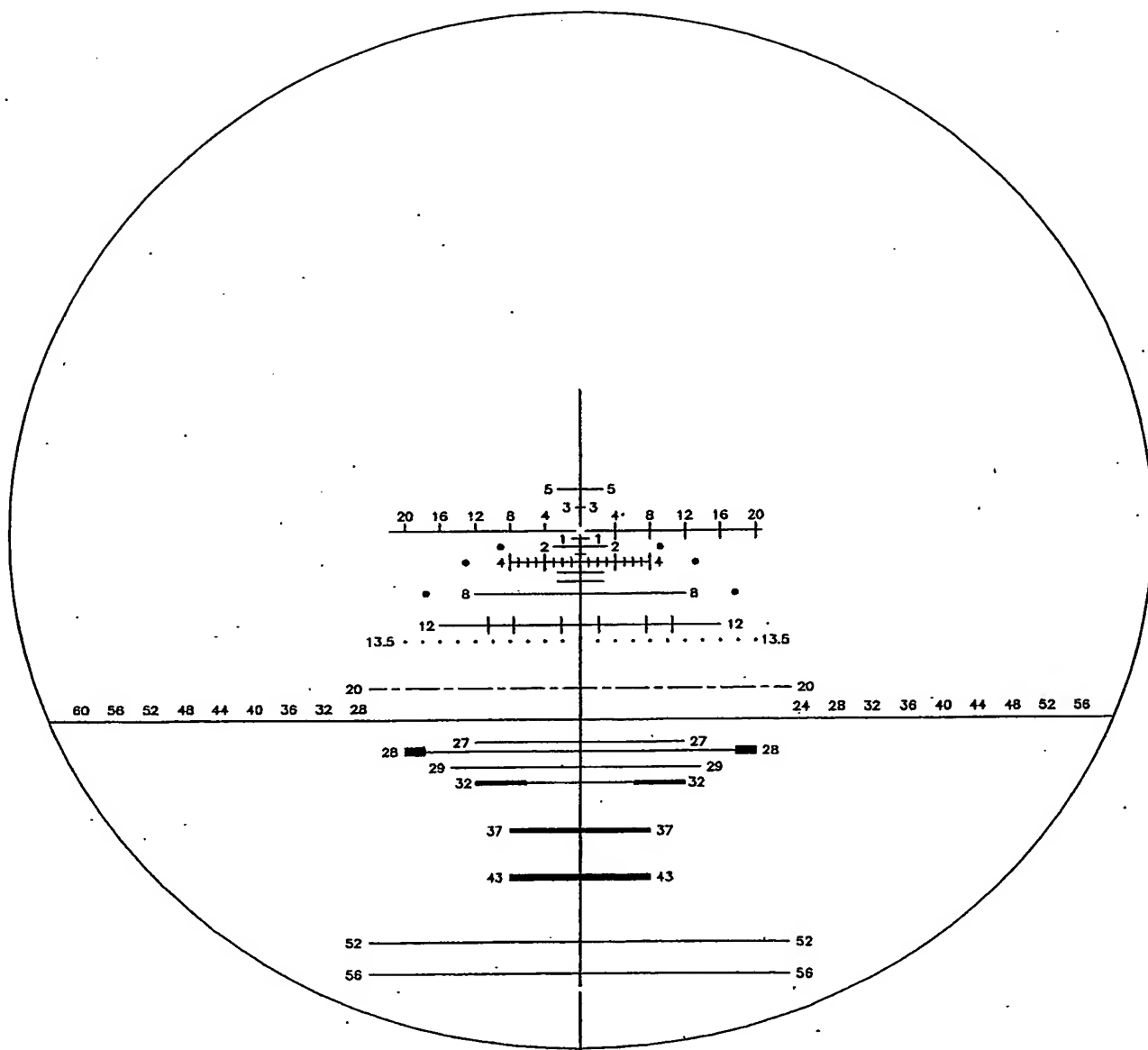


FIG. 51c

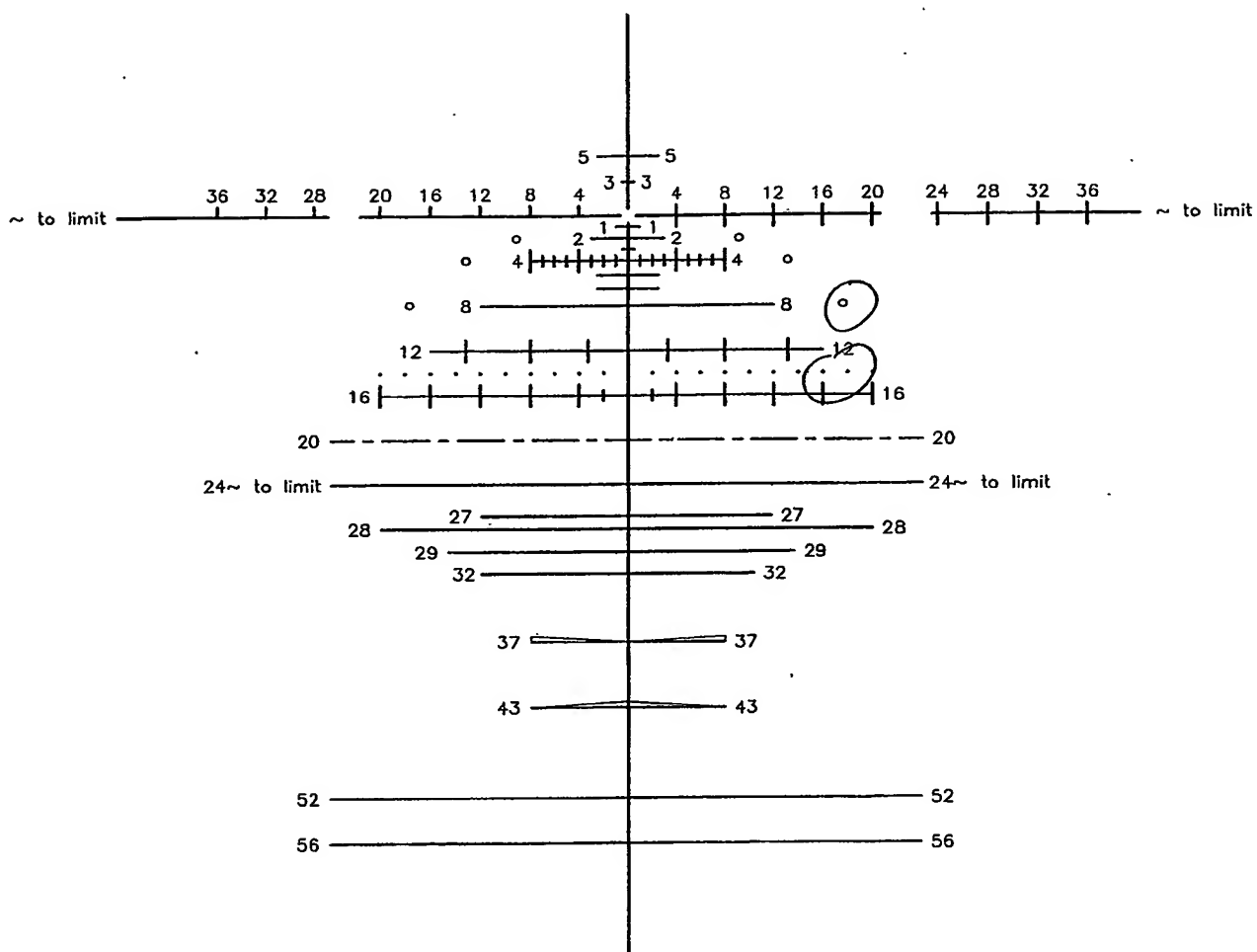


FIG. 52a

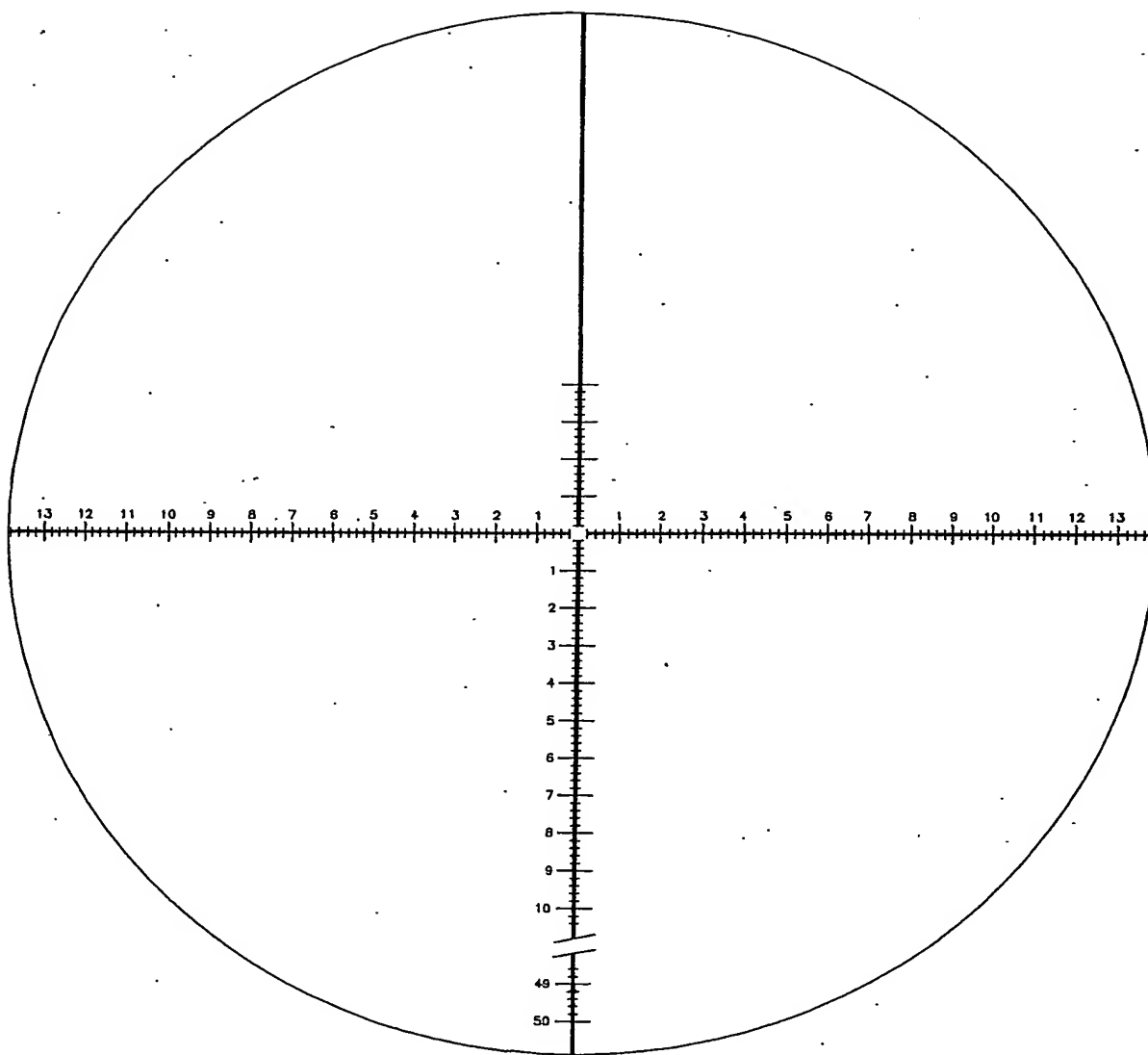


FIG. 52b

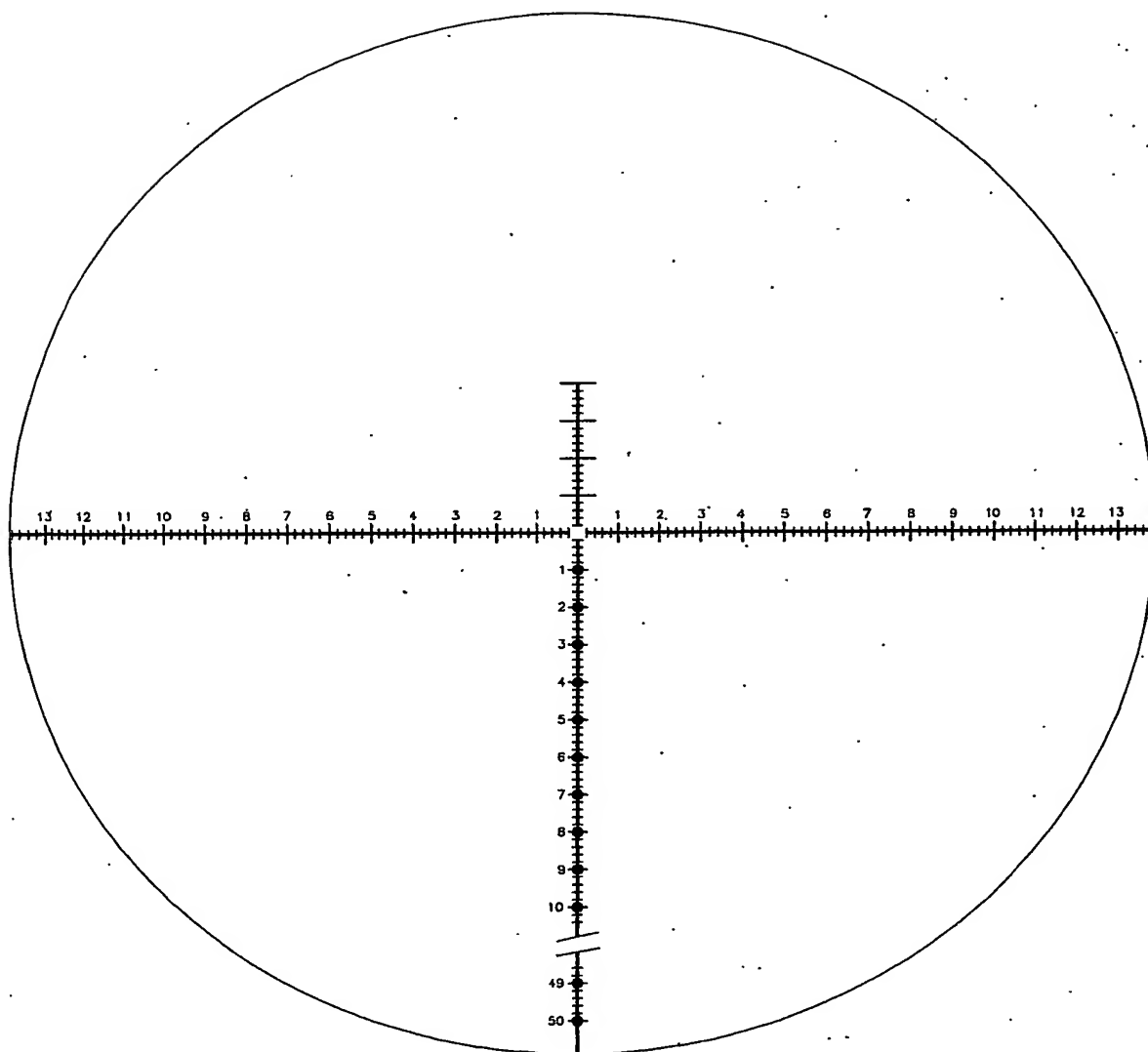


FIG. 52c

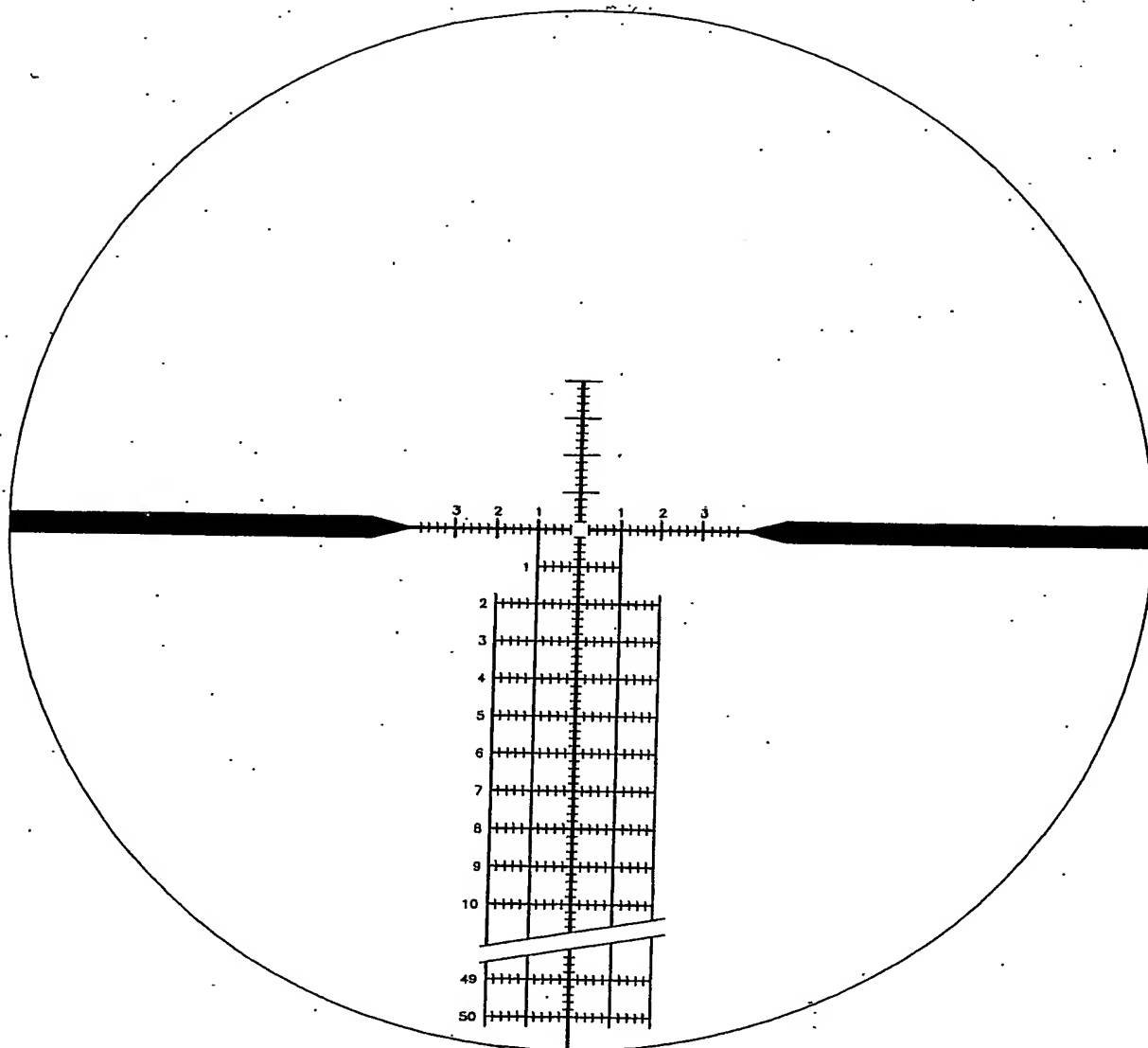


FIG. 52d

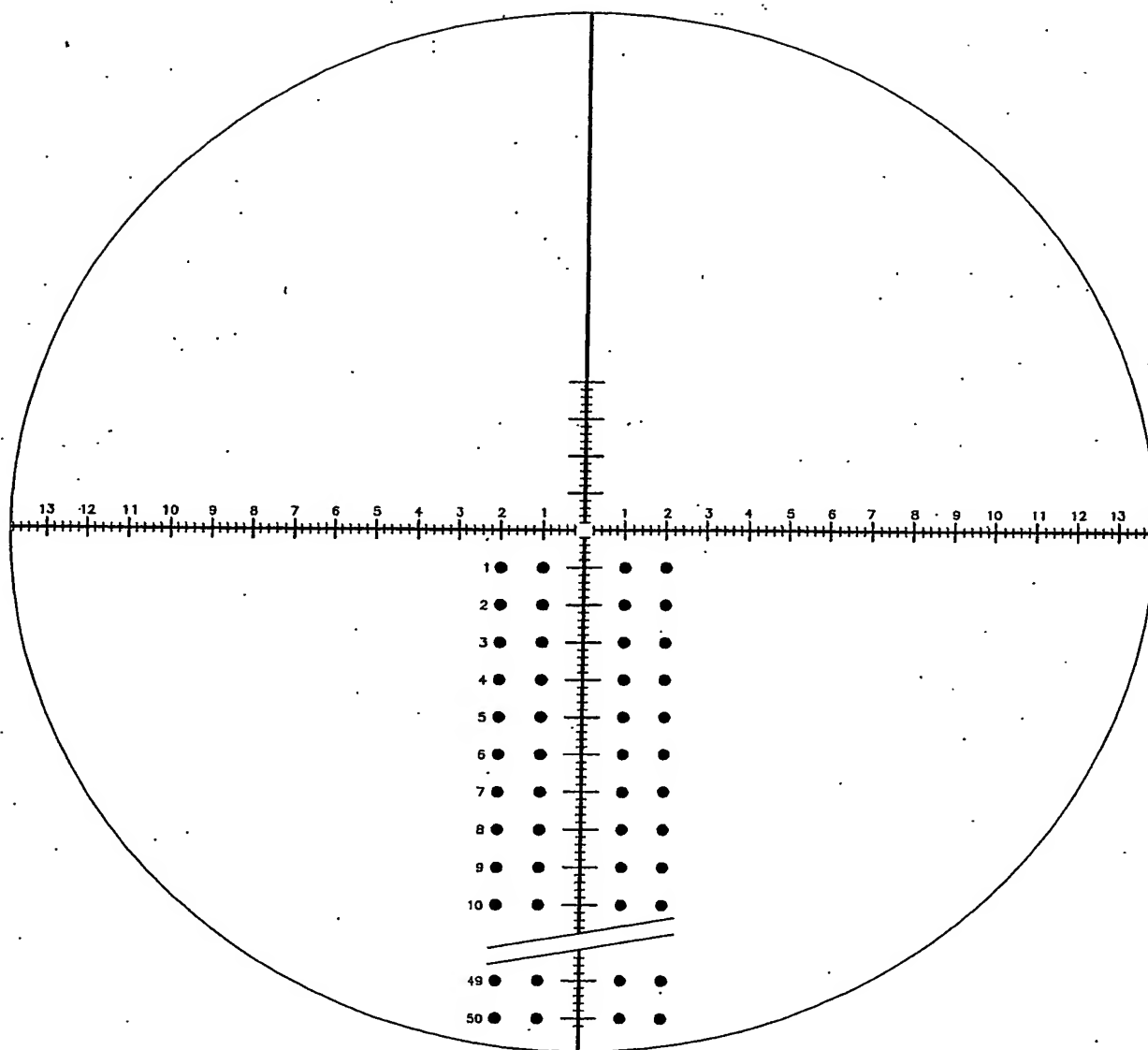


FIG. 52e

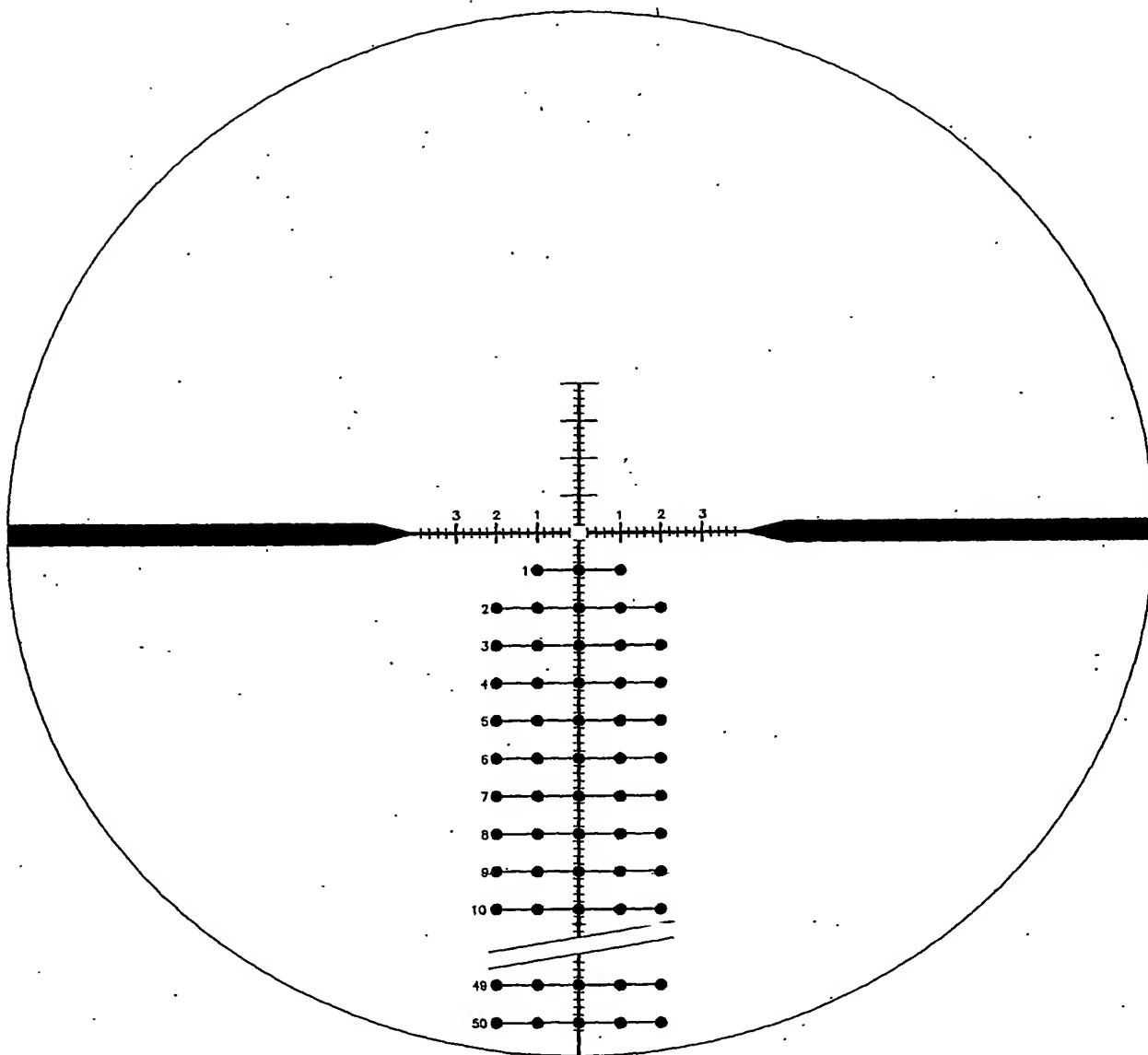


FIG. 53a

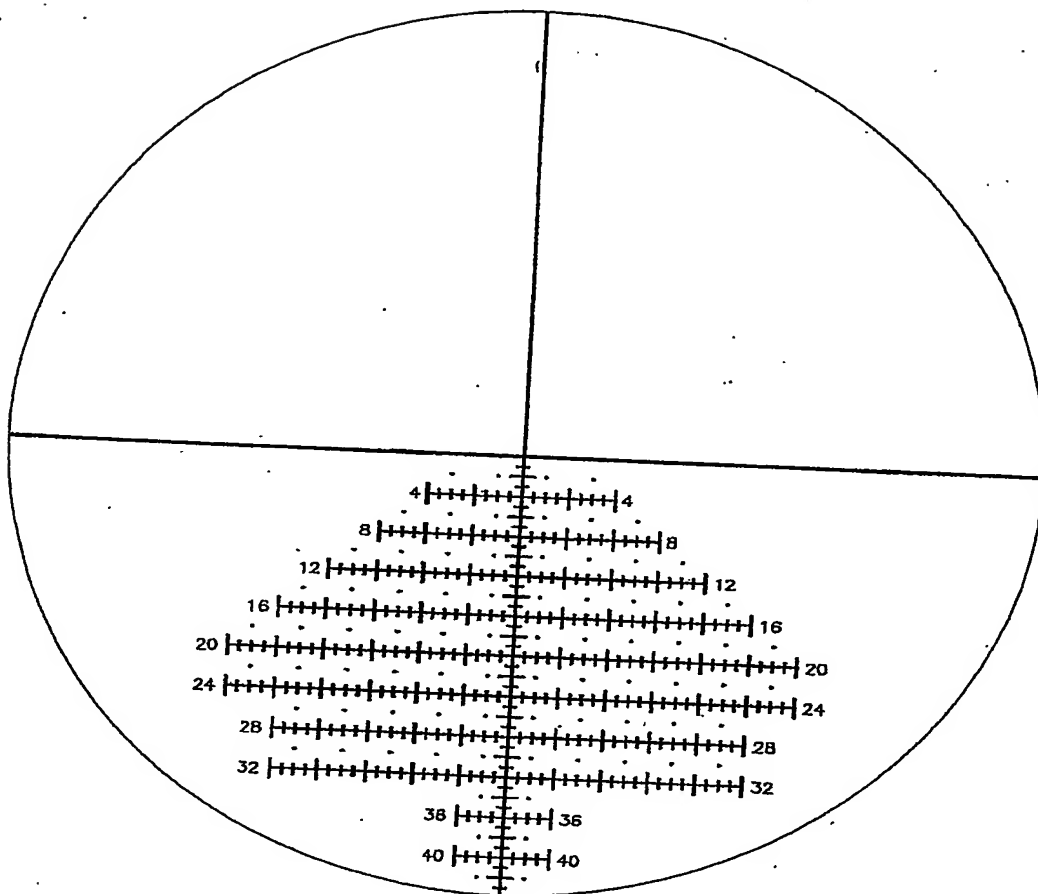


FIG. 53b

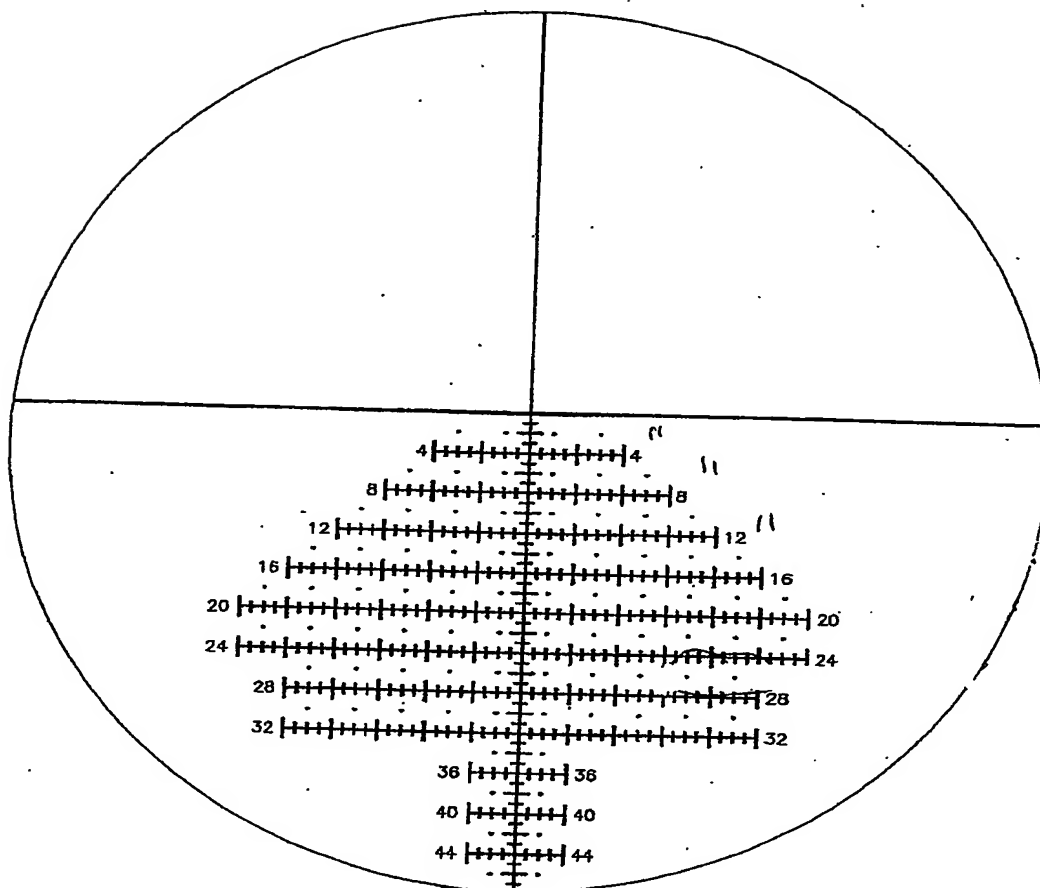
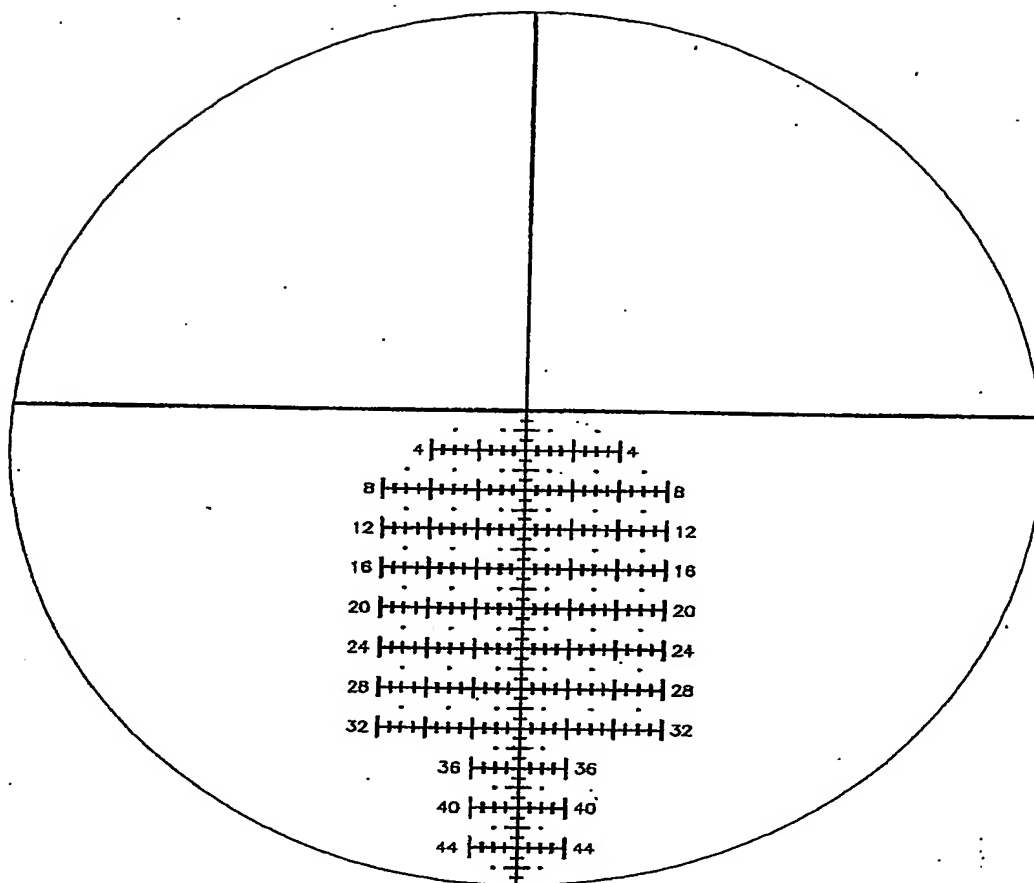


FIG. 53c



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